APRIL, 1907

Price 20 Cents

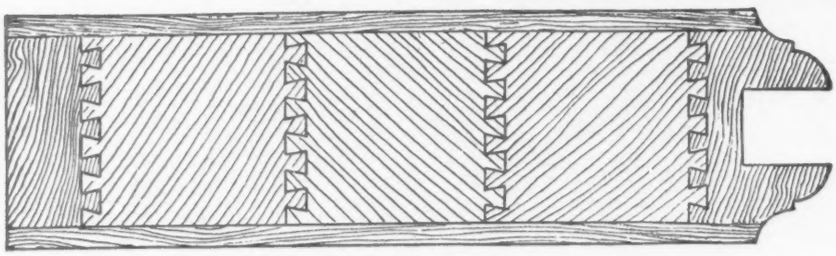
AMERICAN CARPENTER AND BUILDER

THE WORLD'S GREATEST BUILDING PAPER



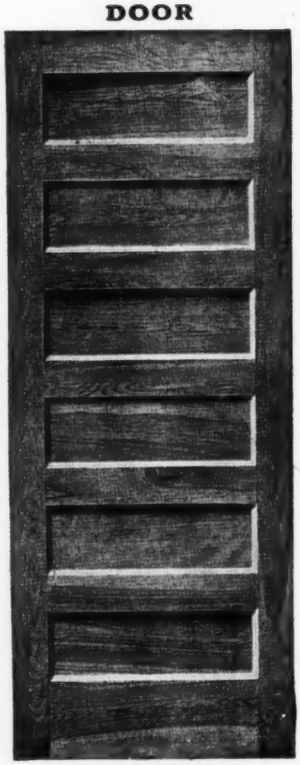
SECOND ANNIVERSARY NUMBER
AND BUILDERS' EDITION

TH1
.A25



THE KORELOCK CORE

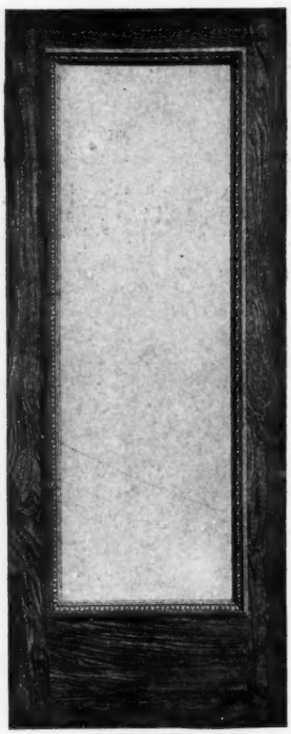
The KORELOCK DOOR



No. 377

Birch, $\frac{7}{8}$x$\frac{6}{8}$ — $2.75, F. O. B. Cincinnati
Oak, $\frac{7}{8}$x$\frac{6}{8}$ — 3.40, F. O. B. Cincinnati

Every KORELOCK door is guaranteed not to bind, twist, swell or shrink.



No. 380

The KORELOCK DOOR



No. 381

Birch, $\frac{7}{8}$x$\frac{6}{8}$ — $3.00, F. O. B. Cincinnati
Oak, $\frac{7}{8}$x$\frac{6}{8}$ — 3.80, F. O. B. Cincinnati

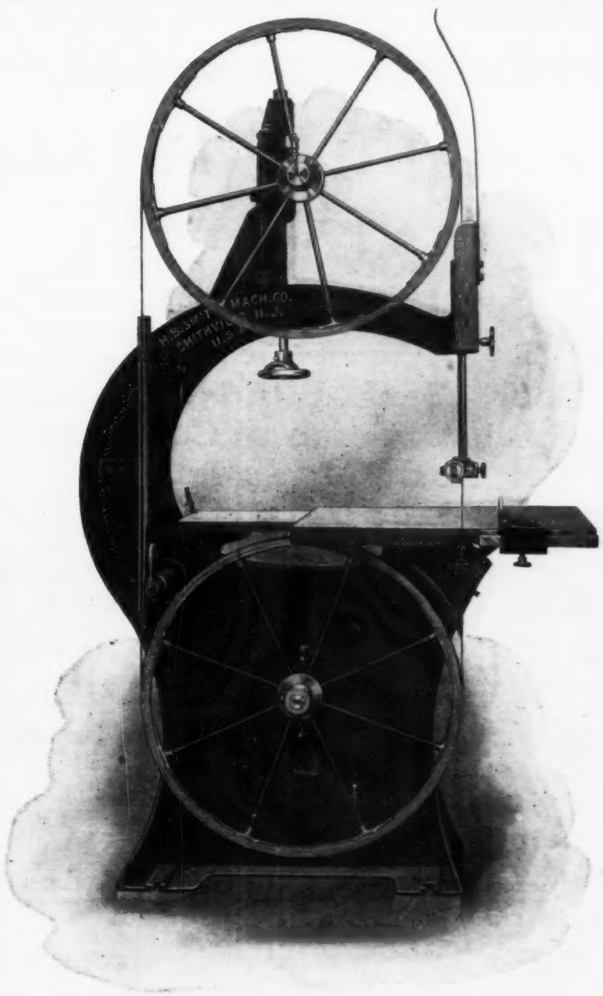
Write for Our Door Catalogue—Bargains in Birch and Oak Doors

What will you use for trim? **Buy gum.** We carry full stocks of gum, birch and plain oak trim. Our **fireproof** cement fluid is now ready—90c per gallon—for roofs, buildings, iron and steel. Write for full particulars and a sample

The Madisonville Lumber Co.

Station M, CINCINNATI, OHIO

A Band Saw of Quality

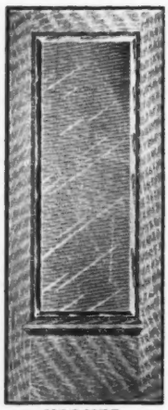


The Smith Band Saw

OUR line is so very extensive—including over 150 machines—that it is impossible to attract every reader of this magazine by pictures only. If you have in mind any specific machine that you want to be advised about, write us. We have a great fund of information gathered from an experience of sixty years in manufacturing machinery for the most critical American woodworkers. The name SMITH is a synonym for quality and indicates the highest standard of excellence in design. Write us for circulars completely describing the above illustrated Band Saw.

H. B. SMITH MACHINE CO.
SMITHVILLE, N. J., U. S. A.
CHICAGO NEW YORK BOSTON ATLANTA

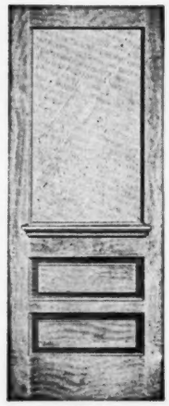
AMERICA'S ONLY QUICK SHIPPING HOUSE


HOOSIER

Established 1869

Makers of HIGH GRADE

Doors, Sash, Blinds, Veneered Doors, Colonial Columns, and Glass of all Descriptions


FILLA

We Positively Ship Odd Work in 4 to 7 DAYS


GOSHEN SPECIAL

¶ We ship stock work upon receipt of order.

¶ We make the Highest Grades to be had from any concern.

¶ *We invite a trial* order from you. *Just one* will make you one of our *regular* customers—the *only kind it pays* to have and serve.


ELSBETH-A

Goshen Sash & Door Co.

Goshen, Indiana

GOODS OF HIGHEST QUALITY

WEBER ENGINES

Gas, Gasoline, Alcohol

Are specially fitted to the requirements of Carpenters and Builders

Simple—Durable—Dependable

Today Weber Engines are operating machinery for Carpenters and Builders in each State and Territory in the Union, and in every civilized country on the globe. :: :: :: :: ::

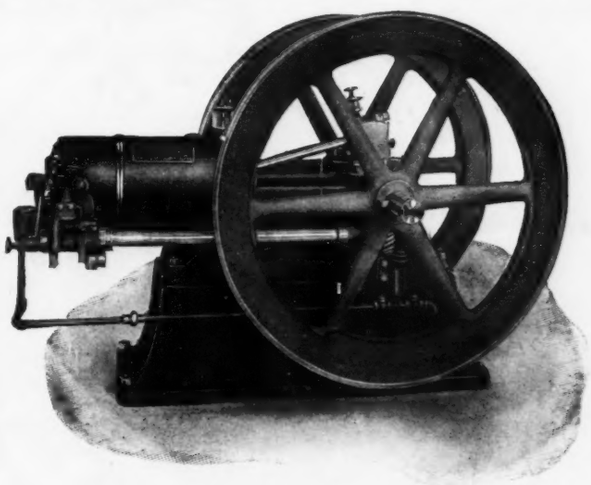
Duluth, Georgia.
Weber Gas Engine Co.,
Kansas City Mo.

Gentlemen:—The 3 H. P. Webe: Engine we bought of you over 4 years ago, has been running ever since that time, and has cost us less than $1 a year for repairs, with constant service.

The engine pulls Rip Saw, Band Saw, Cut-off Saw, Emery Wheel, 6½ in. Jointer, and seems to have plenty of power left.

We are well pleased with the engine and consider it the best we have ever had anything to do with, and we have worked on many. We heartily recommend it to prospective buyers.

Yours truly,
J. A. Cook & Son,
Carpenters and Builders.



De Kalb, Texas.
Weber Gas Engine Co.,
Kansas City, Mo.

Gentlemen:—The 6 H. P. Engine I bought of you about two years ago has given entire satisfaction. I have one of Hall & Brown's heaviest Band Saws; also one of their Planers and Joiners, 12 in.; also Power Hammer and Drill. Have just finished sawing 4000 Log Wagon Felloes for 5 in. tire, they being out of 5½ in. thick white oak. The engine is very simple to operate and has given entire satisfaction in every way. I have run it all day and part of the night, and the cylinder would not get hot.

Yours truly,
A. Barton,
Carpenter and Builder.

Sizes 3 to 350 H. P.

Honest Facts About Honest Engines

¶ WEBER ENGINES are made of the best obtainable class of material, regardless of cost, and by high priced skilled mechanics who have spent years learning their trade.

¶ Every engine is critically tested under full and partial load before shipment; full actual horse power guaranteed.

¶ Crank shafts cut from solid billet of steel without a bend or weld. Connecting-rods heavy and strong, with double adjustable bearings.

¶ Governor extremely sensitive and arranged so that speed of engine can be instantly changed without stopping—saving time and labor.

¶ Ignitor simple and positive in action. Sparking points non-corroding, rust proof and self-cleaning.

Write for catalog describing engines in detail, and tell us the amount of power you need. We will quote you promptly and give you full information.

HIGHEST AWARD
ESTABLISHED 1884 PRODUCER
WEBER
GAS GASOLINE ALCOHOL ENGINES
GOLD MEDAL

WEBER GAS ENGINE CO.

Box 406

KANSAS CITY, MO. **Catalog free**

ATTENTION

GOOD PEOPLE!



THE BIG SHOW

IS ABOUT TO BEGIN!

THE PEASE CO.
Wholesale Manufacturers of Building Material.
CINCINNATI.

OUR
MAMMOTH CATALOGUE
Just Off the Press

Will be Sent to Your Address

Absolutely FREE

SEND US YOUR NAME AND ADDRESS

TODAY

THE PEASE CO., Cincinnati, O., U. S. A.

OUR MAMMOTH CATALOGUE

TELLS YOU ALL ABOUT OUR MODERN

BUILDING MATERIAL

AT THE

LOWEST PRICES EVER KNOWN

Lumber, Shingles, Pickets, Paints, Porch Columns, Plaster, Ready Roofings, Building Paper, Door and Window Frames, Clothes Posts, Hitching Posts, Ceiling, Flooring, Siding, Interior Trim, Sash, Doors, Blinds, Glazed Windows, Glass, Composition Work, Stair Work, Brushes, Hardware, Art Metal Ceilings, Grilles, Steel Siding and Shingles, Embossed Mouldings, Parquetry Flooring, Church Furniture, Medicine Cabinets, Mantel Fixtures, Kitchen Cabinets, Door and Window Screens, ART GALLERY of MANTELS, Etc., Etc.

All in OUR BIG MAMMOTH CATALOGUE

Sent Absolutely Free

Upon Receipt of Your Name and Address

THE PEASE CO., Cincinnati, O., U. S. A.

There's Nothing to Fear From the Elements

when your roof is covered with



32 POUNDS COATING

ROOFING TIN

In case of fire from without it does not ignite; from within, it soon smothers the flames; wind cannot get under; rain cannot beat through; a snow load—the worst of all pressures—creates no damage, while freezing and hail will not crack or destroy this superior commodity.

Think over all the roof coverings and see if such claims can be truthfully made for any of them, then take into consideration the moderate cost and long life of MF Tin, and decide for yourself which is the most practical material for you to use.

Our booklet "From Underfoot to Overhead" tells how MF is made. We want you to have a copy, and will gladly send it if you will write us.

AMERICAN
SHEET & TIN PLATE
COMPANY,

1406 Frick Building, PITTSBURGH, PA.

Roofing Tin versus Heavy Roofing Materials

TO PROVIDE the required support which all heavy roofing materials such as slate, tile, slag and composition roofs require, very heavy and substantial roof construction is necessary. This is a heavy expense which is unnecessary when Roofing Tin is used.

In our experience we have found that Roofing Tin provides not only equal but superior protection, while the cost of construction is naturally far less for the reason that Roofing Tin is so light there is but little roof stress and very simple construction will afford all the support it requires. Therefore, this means a great saving in cost of building construction and should be carefully considered before the final decision is made.

In time of conflagration or earthquake it is found that buildings roofed with Tin will, naturally, withstand the onslaught of the flames or the jar of the earthquake far longer than any other.

Heavy roofs soon give way and crush all beneath, while a roof covered with Tin, even with the supports removed, has many times been known to suspend itself and remain intact, thereby greatly helping the fighting of the fire by smothering the flames.

Such features as these cannot help but interest the far-seeing architect or property owner, and we will gladly send more detailed information along these lines if you will write to our President, Edwin L. Seabrook, 2213 Chestnut Street, Philadelphia, Pa.

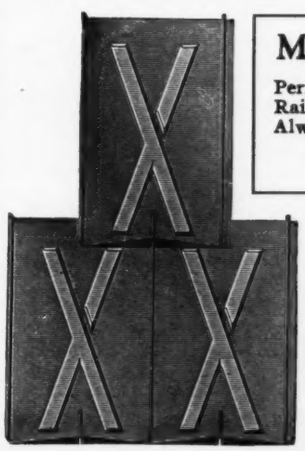
National Association of Master Sheet Metal Workers.

OFFICERS:

President, EDWIN L. SEABROOK, 2213 Chestnut Street, Philadelphia, Pa.
1st Vice Pres., PAUL L. BIERSACH, Milwaukee, Wis.
2nd Vice Pres., J. A. PIERPOINT, Washington, D. C.
3rd Vice Pres., CHAS. A. GAUSS, Indianapolis, Ind.
4th Vice Pres., AL BOURLIER, Louisville, Ky.
Secretary, W. H. BARNARD, Norfolk, Va.
Treasurer, G. W. BATTLEY, Norfolk, Va.

TRUSTEES:

THOMAS F. BLACK, Brooklyn, N. Y.
ROBERT KAIN, Cleveland, Ohio.
E. W. RICHARDS, Philadelphia, Pa.
W. A. GALLAGHER, Wilmington, Del.
OTTO GOEBEL, Syracuse, N. Y.
JOHN BOGENBERGER, Milwaukee, Wis.
HENRY WEIS, Kansas City, Mo.
W. A. FINGLES, Baltimore, Md.
W. W. BOSBURY, Parkersburg, W. Va



Metal Shingles

Perfect Side Lock.
Rain and Snow Proof.
Always Give Satisfaction.

Write for Prices and Catalog "S."

For—
Architectural Sheet Metal Work, Galvanized and CopperCornice, Roof Gutters, Curved Mouldings, Skylights, Finials, Ventilators, all styles Roofing and Siding, Conductor Pipe, Eave Trough, Etc.

Write for prices and Catalog "G G".

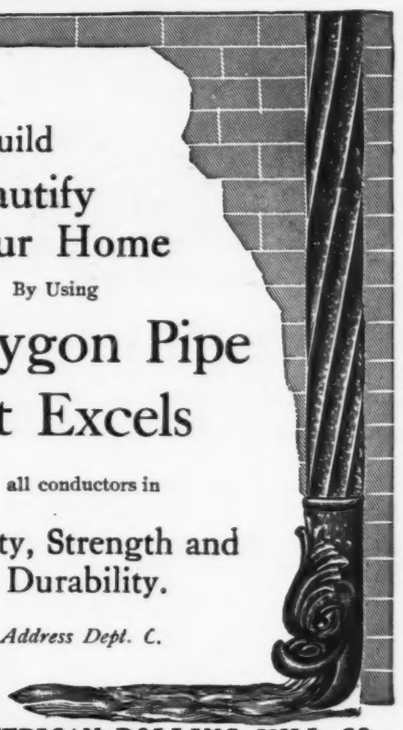
Art Metal Ceilings and Sidewall.

Exclusive and Artistic Designs. Perfect Fitting Plates.
Write for Prices and Catalog "D-D".

KANNEBERG ROOFING AND CEILING CO.
CANTON, OHIO. MANUFACTURERS.

When You Build
Beautify Your Home
By Using
Polygon Pipe
It Excels
all conductors in
Beauty, Strength and Durability.

Address Dept. C.



THE AMERICAN ROLLING MILL CO.
MIDDLETOWN, OHIO.

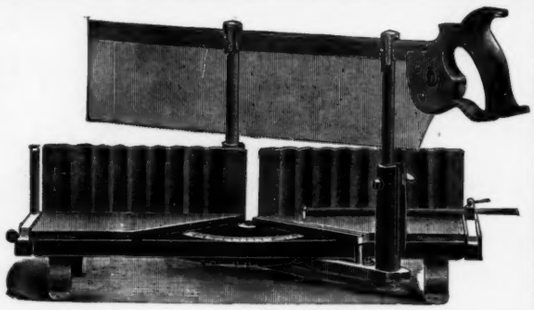
Goodell Mitre Box

MADE ENTIRELY OF STEEL

NO MORE BREAKING ✦ FIRST
in QUALITY and IMPROVEMENTS

Automatic Stops for Holding up Saw. Corrugated Backs. Graduated. Gauge for Duplicate Cuts
and many other features

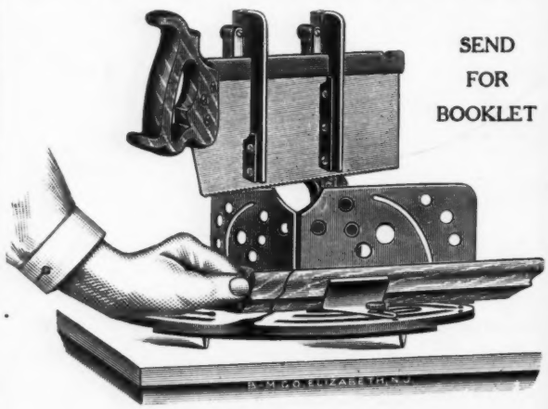
If you want the best you will take no other
Send for Circular C



GOODELL MANUFACTURING COMPANY ✦ Greenfield, Mass.

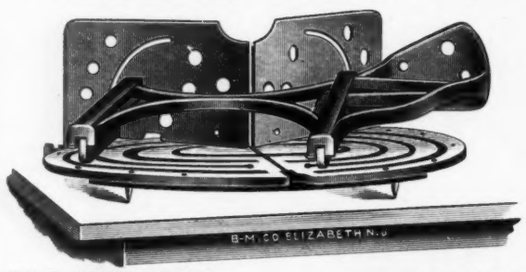
REVOLVING MITRE BOX

SEND FOR BOOKLET



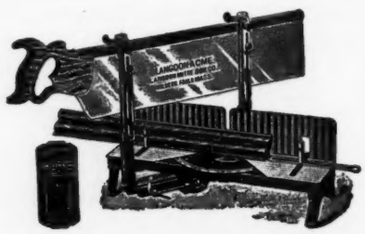
Manufactured by

BRAUNSDORF-MUELLER CO.



1091 E. GRAND STREET . . . . ELIZABETH, N. J.

We recommend as a perfect tool and one that will give the utmost satisfaction



The Langdon Acme Mitre Box

This cut shows the Size 2 Box with the saw suspended by the elevators, the moulding held by the supporting guide on one side, and brought against the length gauge on the other.

The bottom boards to this Mitre Box are made of sheet steel, slightly roughened.

The elevators (as shown in cut) may be used for extreme heights or for varying depths for cutting tenons, etc.

The graduated arc indicates all angles. Attached to the box is a metallic index plate, explaining these angles.

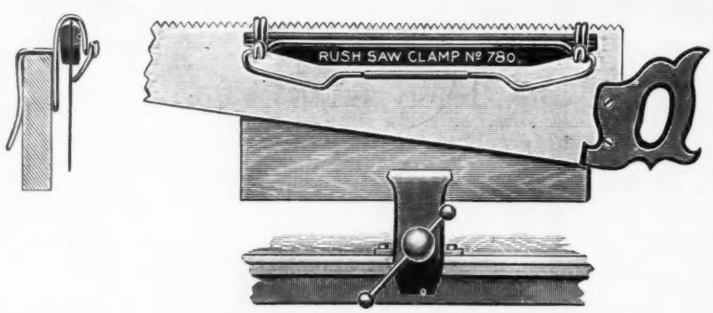
The supporting stock guides and length gauge will be found very useful.

Polished parts are nickel plated.

These Boxes are made in three sizes with varying lengths of saws.

Send for catalogue C, giving full description and prices.

MILLERS FALLS CO., No. 28 Warren St., NEW YORK



NEW! NEW!! NEW!!!

Rush Noiseless Saw Clamp (Vise). Only four parts—two wood and two wire. Can be attached instantly to any ⅞-inch board. Sharpen any length of saw. No castings, no screws.

Ten Thousand (10,000) Sold the First Month. Special offer for this month.

Send 50 cents for this Dollar Clamp, together with this ad., and we will ship you one only.

SMITH & HEMENWAY CO., 108 Duane Street, New York

"Yankee Tools"

The newest, cleverest and most satisfactory in use, and the first to be offered at so reasonable a price that every up-to-date mechanic could buy tools of their quality and character.

Other tools are very good tools but "Yankee" tools are better.

"Yankee" tools are sold by all leading dealers in tools and hardware everywhere. Ask your dealer to see them.

Our "Yankee" Tool Book tells all about these and some others, and is mailed free on application to—



No. 15. "Yankee" Ratchet Screw Driver, with Finger Turn on Blade



No. 30. "Yankee" Spiral-Ratchet Screw Driver, Right and Left Hand.



No. 44. "Yankee" Automatic Drill, Eight Drill Points in Handle, and Adjustable Tension to Spring.



No. 50. "Yankee" Reciprocating Drill for Iron, Steel, Brass, Wood, etc.

North Bros. Mfg. Co.

PHILADELPHIA, PA.

"FORSTNER" BRACE AND MACHINE BITS

FOR FINE CARPENTER, CABINET AND PATTERN WORK



Specially Adapted for Hardwood Working.

The Forstner Labor-Saving Auger Bit, unlike other bits, is guided by its *Circular Rim* instead of its centre; consequently it will bore any arc of a circle and can be guided in any direction regardless of grain or knots, leaving a true polished surface. It is preferable and more expeditious than chisel, gouge, scroll-saw, or lathe tool combined, for core-boxes, fine and delicate patterns, veneers, screen work, scalloping, fancy scroll twist columns, newels, ribbon moulding and mortising, etc.

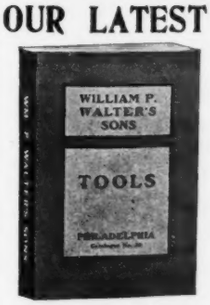
Manufactured by

THE PROGRESSIVE MFG. CO., Torrington, Conn.

Enquire of your Hardware Dealers or write us direct. **Supplied in sets.** **Write for Catalogue.**

To thoroughly introduce this high grade tool among carpenters, pattern makers and others, we will mail to any reader of the AMERICAN CARPENTER AND BUILDER upon receipt of 50 cents any bit we make from one-quarter inch to one inch in size.

OUR LATEST CATALOGUE No. 20.



Handsomely printed on heavy paper, containing 450 pages, 2000 illustrations, including a full line of **Woodworking** and **Metalworking Tools, Foot Power Machinery, Lathes,** etc. This is the largest and most complete catalogue we have ever issued, being a valuable hand book for any mechanic. Sent on receipt of 20 cents postage.

WM. P. WALTER'S SONS
Tool Headquarters
1233 Market Street, PHILADELPHIA

(Please mention the American Carpenter and Builder)



The "Manest" Flour Box

Better and *Cheaper* than Wood Bins

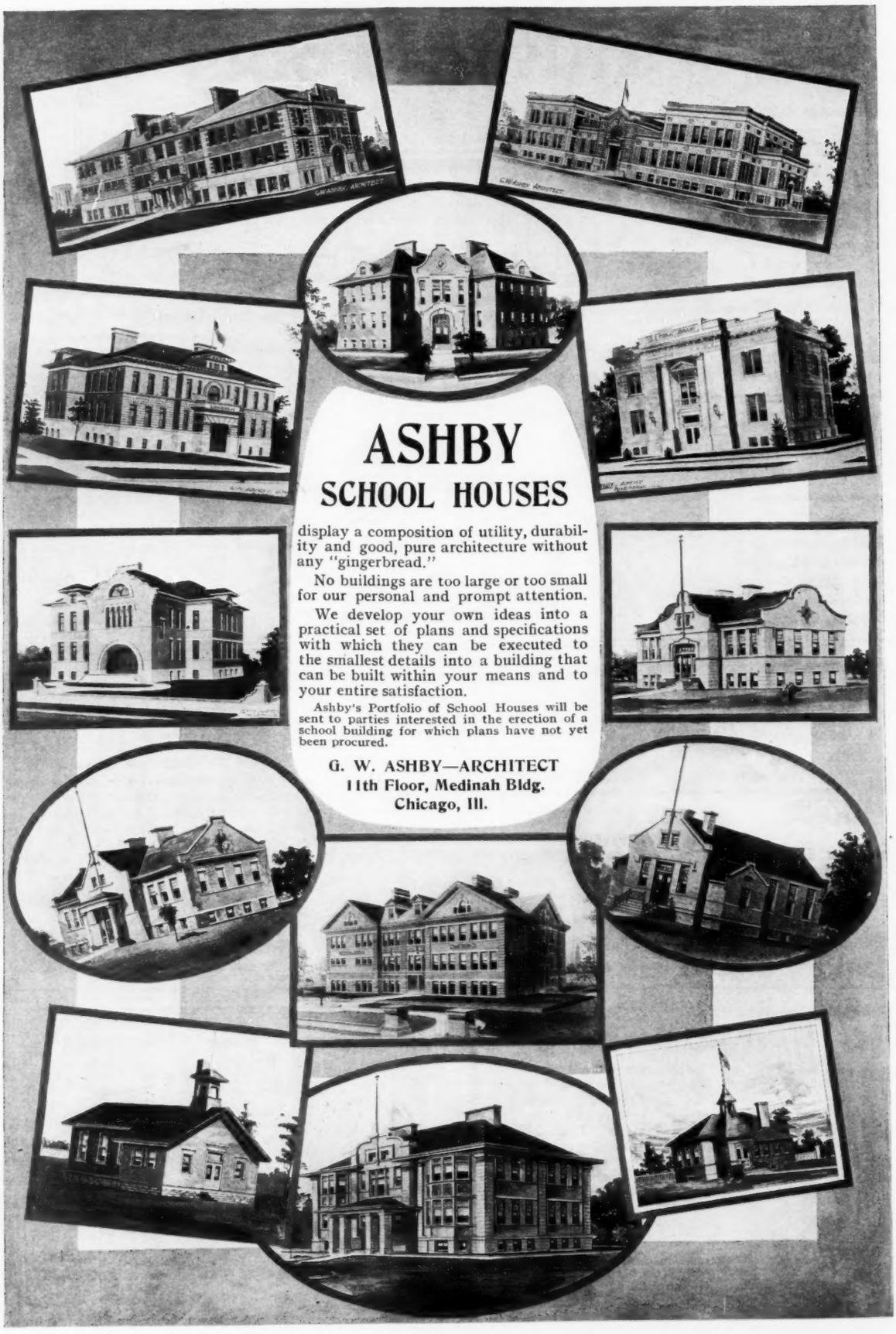
Made of Tinned Metal, Black Japanned on Outside. Fasten on Inside of Cupboard Door. Proof against Mice, Vermin, Mould and Dust.

Made in Three Sizes

Send for Descriptive Circular and Prices

The Mannen & Esterly Co.

Cleveland, Ohio



ASHBY
SCHOOL HOUSES

display a composition of utility, durability and good, pure architecture without any "gingerbread."

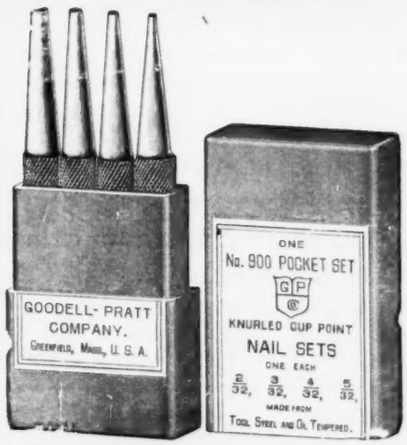
No buildings are too large or too small for our personal and prompt attention.

We develop your own ideas into a practical set of plans and specifications with which they can be executed to the smallest details into a building that can be built within your means and to your entire satisfaction.

Ashby's Portfolio of School Houses will be sent to parties interested in the erection of a school building for which plans have not yet been procured.

G. W. ASHBY—ARCHITECT
11th Floor, Medinah Bldg.
Chicago, Ill.

GOODELL-PRATT
NAIL SETS
IN
No. 900 POCKET SETS



These Sets consist of four of our celebrated Nail Sets, one of each size:

2-32, 3-32, 4-32, 5-32 in.

These are put up in a convenient little case and can be readily carried in the pocket, giving an assortment of points for all purposes.
Send for our No. 8B Catalog.

GOODELL-PRATT COMPANY
GREENFIELD, MASS., U.S.A.

FAR AHEAD for Smooth, easy work and holding edge will be YOUR VERDICT ON TRYING

CHAPLIN'S IMPROVED PLANES

Patented Feb. 14, 1899; Oct. 30 1900; Dec. 24 1902

We invite the Severest Comparative Tests



We want you to have a copy of our booklet "A 'Plane' Talk About a Good Plane!"

We want you to have a copy, for it is a booklet you really need in your business.
We'll gladly send you this booklet with our compliments, promptly upon receipt of your request.

Tower & Lyon Company, 95 Chambers Street, New York

"OHIO" Edge Tools are Famous for Keen and Lasting Cutting Edges

Such tools—the kind that does not give down in the midst of an important job—are worth insisting upon. All progressive Hardware Dealers handle the "Ohio" line.

Every Tool Covered by a Broad Guarantee

We manufacture Planes, both Iron and Wood, Chisels, Gouges, Drawing Knives, Auger Bits, Spoke Shaves, Bench and Hand Screws, etc.

OHIO TOOL COMPANY, COLUMBUS, OHIO



Our Catalog No. A sent on request

The American Combined Level and Grade Finder

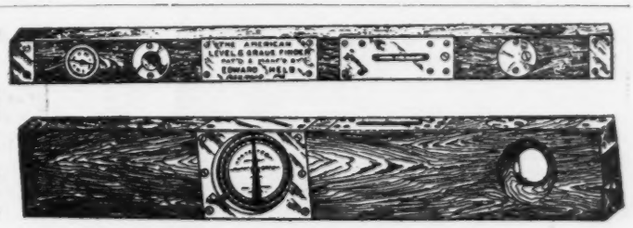
SOMETHING ALTOGETHER NEW

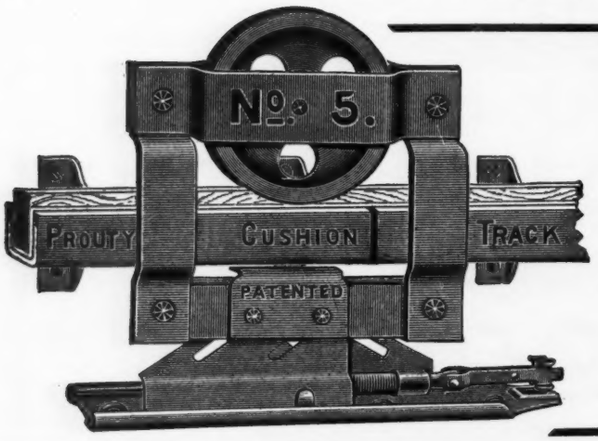
All progressive and up-to-date Mechanics, Machinists, Carpenters, Bricklayers, Masons, Plumbers, Millwrights, Road Supervisors, Track Foremen, Surveyors, Architects, Civil Engineers and others will find this an Indispensable Invention.

A Civil Engineer that you may have with you at all times. The most practicable, durable and convenient instrument of the day.

The cost of the instrument is so low that it is within the reach of all. Write for book of testimonials. Agents wanted on liberal terms.

Apply to **EDWARD HELB, Railroad, Pa., Manufacturer**





Save Time and Annoyance

Time is money to all busy men, and you can save hours by using Prouty Parlor Door Hangers.

The PROUTY No. 5 CUSHION TRACK HANGER does not require any cutting of the door, and our adjustment is positive, so when once in place it never requires further attention. It is noiseless, easy-running and strong, and if you use it once you will have no other.

Write us for particulars and sample set free of charge.

T. C. PROUTY CO., Ltd.
ALBION, MICHIGAN

EVERY BUILDER CAN MAKE MONEY WITH THE

HESS STEEL FURNACE

The advantages we offer make this an unusually good proposition for builders. We MAKE our own goods. We are not agents nor middlemen. We sell

DIRECT FROM FACTORY

at prices which save you $25.00 to $100.00 of dealers prices.

We are furnace **experts** with 34 years experience in designing and building furnace equipments, and we give you this experience and skill, preparing working drawings for you, **free,** showing every detail of the furnace work, so you can put up the outfit with your own men or your own hands, and we **guarantee its success,** or money refunded.

We pay a **commission to carpenters and builders** after their first purchase, on all subsequent orders, and on all sales which come from their influence or from information they may give us.

Send us the names of three or more owners who will buy furnaces and we will send you, free, two of the best **carpenter's pencils** you ever saw.

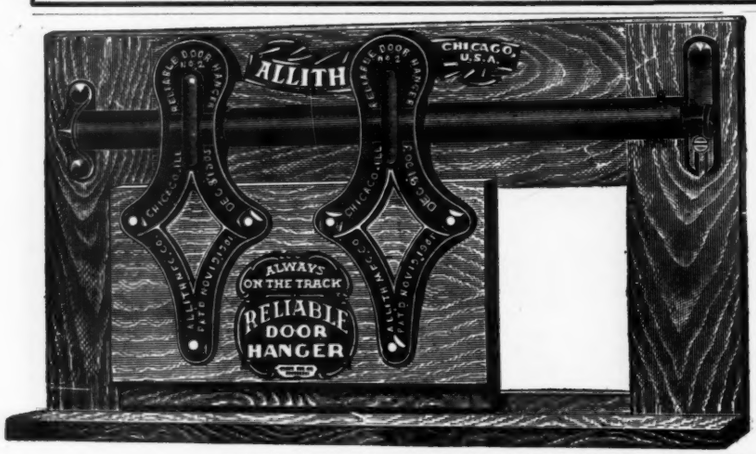
Send us a sketch of any building you may want to heat and we will send you, **absolutely free** of charge:

1. A **blue print** showing just how we would heat it.
2. An **estimate of cost,** for the entire outfit, all made to measure, laid down at your railroad station, freight prepaid.
3. **Our booklet,** "Modern Furnace Heating," which tells how to heat buildings with furnaces.
4. **Our commission offer,** which makes you, after your first purchase, a profit sharer with us, in any of your later orders, and in any sales to others we may secure with your help or information.
5. A list of our customers. Some are your neighbors. You could investigate. Write today.



This No. 45 Steel Furnace, with 18 x 21 firebox, 53.7 square feet radiating surface, only $49.00, freight prepaid to any station east of Omaha. Pipes and registers extra. Five other sizes at proportionate rates.

Hess Warming and Ventilating Company
920 Tacoma Building, Chicago, Ill.



RELIABLE

ROUND TRACK DOOR HANGERS

Impossible to Derail
Easy Running, Great Strength

FOR

BARN, WAREHOUSE and FIRE DOORS

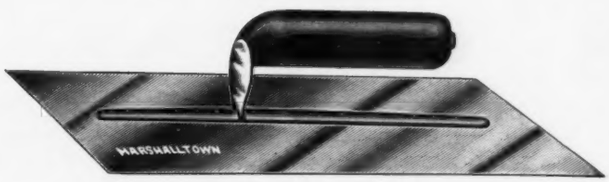
Send for Catalog "A"

ALLITH MANUFACTURING CO.
CHICAGO, ILL.

The Marshalltown Trowels

Steel Sidewalk Edgers and Bronze Grooverss, All Sizes

BEST MADE



Finishing and Browning Trowels, all sizes and gauges

Carpenters' Wrecking Bar



Made of the best quality tool steel, ¾ in. Octagon, 30 in. long.

Will pull any size nail.
Just the thing for the mechanic.

Brick Hammers
Brick Chisels
Cork Floats
Canvas Tool Bags
Beading Tools

Marshalltown Trowel Co.

Marshalltown, Iowa. - - - - U. S. A.

"CHAMPION" TELESCOPIC STEEL RODS

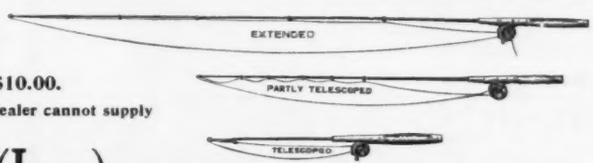
(PATENTED)

The only telescopic rods made of tapered steel tubing with outside line delivery through guides exactly as on a jointed rod.

Can be telescoped or extended without removing reel line or hook. No locking device necessary. The joints are simply pulled out as far as possible and the rod is ready for use.

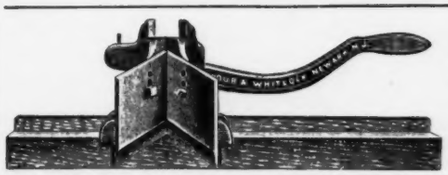
MADE IN TEN STYLES from $4.00 to $10.00.

On sale by all representative dealers in Fishing Tackle. If your dealer cannot supply write us for free illustrated booklet and Price List.



Van Doren Manfg. Co. (Inc.), 56-58 W. Van Buren St. CHICAGO

The S. & W. MITRE



Hand or Foot Power

2½, 3 and 4 inch Sizes

GUARANTEED ABSOLUTELY ACCURATE
Write us for particulars

SEYMOUR & WHITLOCK
1 GARDEN ST., NEWARK, N. J.

Miller's Hand Mortiser

PRICE $12.00. $4.00 with order, balance after 30 days' trial

Its Work is to Make Openings in Doors for Mortise Locks

The time is Three Minutes. The Material is Hard, Soft, Cross Grained and End Wood.

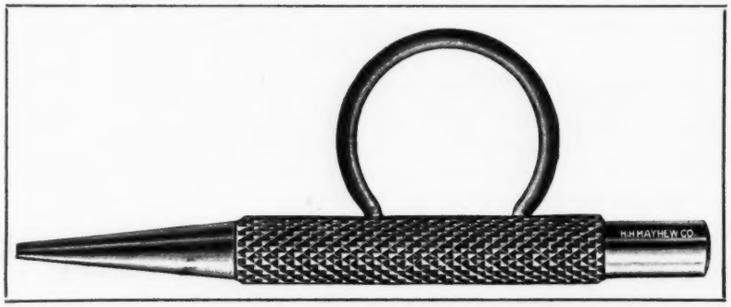


The Job is Clean, True and Parallel with Sides of Door. The Labor is Performed with slight exertion. The Care is practically none as the tool does not get out of order. The adjustment is done in a moment's time for the different sizes. The cutters are five in number and cover locks from 1-2 inch to 1 1-8 inches thick. Thin Doors are handled as easily as Thick Doors.

Riverside, Cal. A. W. MILLER MFG. CO., Cincinnati, O.

Where is My Nail Set?

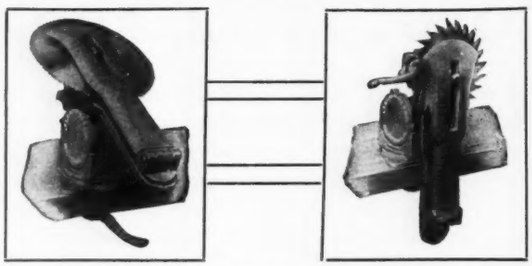
Made in Sizes
2, 3, 4, 5/32



Price
15c
Postpaid

THIS is a hard Nail Set to lose, our No. O. P. Easy to find in your nail pocket. May be hung on a peg over your bench. Wear it on thumb or finger while driving nails, and it's just where you need it to complete the operation. Very simple when you try it. A formed wire handle securely riveted in our warranted Nail Set.

H. H. MAYHEW CO., Shelburne Falls, Mass.



? ? ?



SUCCESSFUL

Draftsmanship

TAUGHT PERSONALLY AND INDIVIDUALLY BY

CHIEF DRAFTSMAN

of large concern, who guarantees you a first-class drafting-room knowledge, experience and high salaried position in few months, home instruction.

Complete Drawing Outfit, Highest Quality FREE

Address, Chief Draftsman, Div. 17,
Engineers' Equipment Co. (Inc.), Chicago, Ill.



VALUE 13.85

FREE TO MY STUDENTS Delivered at Once



PRICES FOR

LARGE PRINTS

up to 4½ x 12 feet

Black Prints on paper, per sq. foot.....3c
Blue Prints on paper, per sq. foot.....2c
Blue or Black on cloth, per sq. foot.....5c

Sample Prints mailed on application

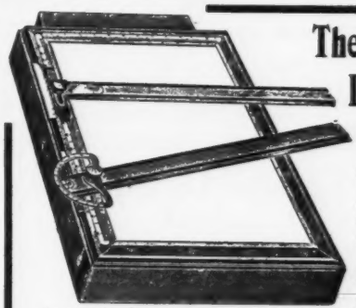
Write for PRICE LIST No. 13 of

DRAWING MATERIALS

and samples of

DRAWING PAPERS

SOLTMANN'S, :: 125 East 42nd St.
NEW YORK, N. Y.



The RICH Handy Drawing Outfit

SAVES TIME

for the draughtsman, and s a great aid to the learner. It holds a number of sheets or a pad, which requires no fastenings. The Protractor T Square gives accurate angles direct. You get measurements from the board. Has a drawer for instruments and can be carried around to make drawings on the spot. Circulars free.

J. & G. RICH, 122 N. 6th St., Phila., Pa.

LUFKIN STEEL TAPES and RULES



ARE INDISPENSABLE FOR ACCURATE WORK

MADE BY
THE LUFKIN RULE CO.
SAGINAW, MICH., U. S. A.
NEW YORK LONDON

For Sale Everywhere.
Send for Catalogue.

Architects and Engineers Supply Co.

DRAWING AND SURVEYORS INSTRUMENTS
EXPERT REPAIRING. 1010 GRAND AVE., KANSAS CITY



Price, $1.75

TOPP'S FRAMING TOOL

A PERFECT TOOL and the only Tool for the purpose ever invented

Saves from 3 to 24 hours in laying out a single roof. Saves time for the skilled mechanic, and enables the ordinary workman to frame the most difficult roof with absolute certainty.

IT DOES ALL THIS. It is accurate, thus preventing all mistakes. It gives angles for any pitch. It gives length for any rafters. It gives cuts for principals, jacks, hips, valleys and cripples. Saves time for the skilled mechanic, and enables the ordinary workman to frame roofs with absolute certainty. *Write for circular. Address the manufacturers.*

G. A. TOPP & CO., Indianapolis, Ind.



We Do Things That Others Dare Not Attempt

because the unusual facilities of our factory—the largest and best equipped in the world—our wide experience and skilled artisans enable us to execute the most intricate and delicate work ever attempted in sheet metal, promptly and with complete satisfaction.

Our 120 Page Catalogue

will be sent you on request and gives some idea of our great facilities. We shall be glad to submit estimates, designs, etc.

The W. H. Mullins Co., 214 Franklin Street, Salem, Ohio.

Makers of everything in sheet metal.



To put up a ceiling easily, to put it up in the least possible time and at the lowest possible expense, the ceiling plates must fit perfectly. This is one of the strong features of the

I. S. R. & C. CO.'S Metal Ceilings

Designed and modeled, as they are, by an expert, manufactured under the direction of men who have both the mechanical sense and skill to know what constitutes and how to produce a perfect ceiling, and handled from the sheet to the finished product by men particularly qualified in their special branch of the process of manufacture. The I. S. R. & C. Co.'s Metal Ceilings, in points of artistic beauty, close fitting qualities, and all else that go to make a perfect ceiling, are as perfect as human skill can produce.

Our catalogue "Metal Ceilings" will tell more about them. It's free upon request.

Indianapolis Steel Roofing & Corrugating Co.

Dept. G. Indianapolis, Ind.

We Want Good Agents Everywhere

To Handle and Sell

The Edwards Metal Ceilings

Write for Metal Ceiling Catalog A and special proposition to Agents

THE EDWARDS MANUFACTURING CO.

"THE SHEET METAL FOLKS"

Main Office and Works, 401-417 Eggleston Ave.

CINCINNATI OHIO

Mr. Carpenter!



Be Up-to-Date!

You see the METAL TAPES on windows in all new buildings —THEY are the "PULLMAN" SASH BALANCES. Can also be used on old work.

Send for Catalog A.

PULLMAN MFG. COMPANY

Pullman Street ROCHESTER, N. Y.

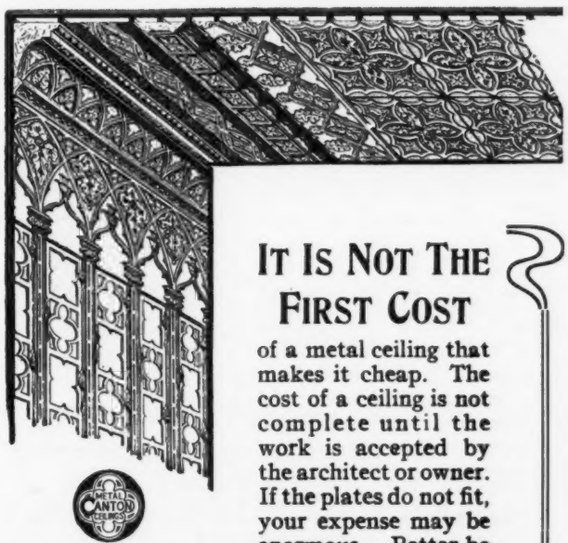
Don't ask the Dealer for Sash Cord. Ask for

"SILVER LAKE"

and see that he gives it to you. It is impossible to



substitute, as our name is stamped in red on the cord. Silver Lake Sash Cord is the Original Solid Braided Cotton Sash Cord and has been the standard since 1868. No other is just as good.



IT IS NOT THE FIRST COST

of a metal ceiling that makes it cheap. The cost of a ceiling is not complete until the work is accepted by the architect or owner. If the plates do not fit, your expense may be enormous. Better be on the safe side and get "Canton" Metal Ceilings. We have a reputation for good work.

Our book "Art in Metal Ceilings" free.

THE CANTON ART METAL CO.

Formerly THE CANTON STEEL ROOFING CO.

CANTON, OHIO

New York Branch No. 525 W. 23rd ST.

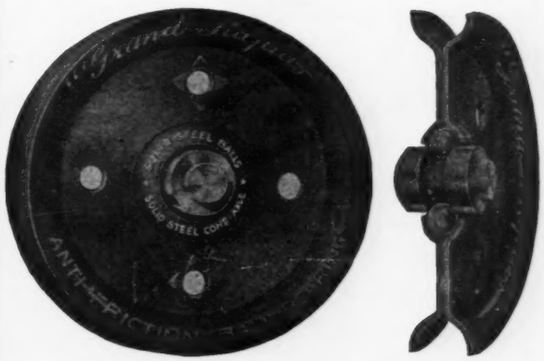
Minneapolis Branch No. 253 SECOND AVE., S.

"BALL-BEARING" GRAND RAPIDS

All-Steel Sash Pulleys

Are sold DIRECT to Builders, Contractors and Mills at prices under the common ordinary goods

PATENT PENDING

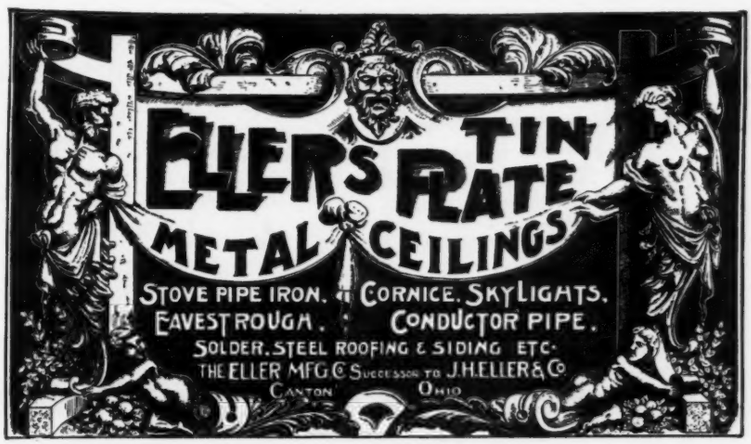


If you make ten or ten thousand window frames, we can save you money and give you a superior sash pulley. We are the largest sash pulley makers in the world. We ship direct, or through dealers and jobbers everywhere.

Write for catalog and free samples and prices on half-gross, gross, barrel, or any quantity. Direct from the makers to you. Inquiries welcome.

Grand Rapids Hardware Co.

33 Pearl Street Grand Rapids, Mich.



STANLEY

CONCEALED RATCHET BRACE.

No projections to injure the hands.



Send For Catalogue No. 34.

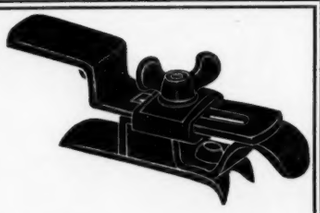
We make a complete line of Bit Braces

Sold by all Hardware Dealers.

Stanley Rule & Level Co.

New Britain, Conn., U. S. A.

WAGNER



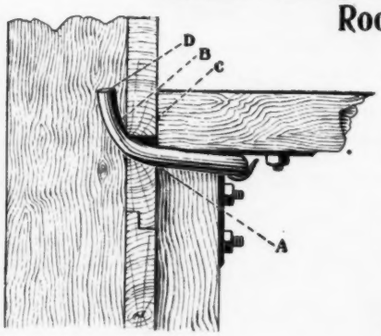
"TRIPLE ALLIANCE"

Consists of

Shingle Gauge

Bracket Hanger

Roof Bracket



No Contractor or Carpenter should enter this year's campaign without one.

Over 5,000 Carpenters are using them.



Ask your dealer for information—if he cannot supply you, write for booklet direct to the sole manufacturers.

WAGNER MFG. CO.

Department G

Cedar Falls, Iowa

Money **SAVED** Time **SAVED** Labor **SAVED**

BY USING THE BUTCHER AUTOMATIC

POST HOLE DIGGER



Let us send you particulars.

LARAMY HOWLETT CO.

Standish Street

CAMBRIDGE, MASS.

Or inquire of Hardware Dealers.



JOHN HARTMANN

Manufacturer of



Architectural Wood Carvings

Composition Ornaments

Patterns for Wood and Metal ::: Write for Illustrated Catalogue

13-19 NORTH JEFFERSON STREET, CHICAGO, ILLINOIS

Genuine Swedish

Iron Shingle Nails

Free Sample by Mail

TRADE WEATHERPROOF MARK

Every Keg Guaranteed

These are the kind you have been asking for. Old Fashion Swedish Iron Shingle Nails. Kind grandfather used. Kind you have been unable to get.

Henry J. Miller's Sons, Bridgwater, Mass.

Smooth, tough "leads" are the result of skilful and careful grinding, working and firing. It is this care and skill that make Dixon's Carpenter Pencils standard. Send 16c for generous sample lot 183 J.

JOSEPH DIXON CRUCIBLE CO.,

JERSEY CITY, N. J.


"Victor" Scroll Saw.

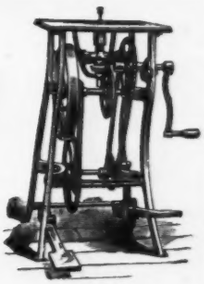

"Diamond" Mortiser

FOOT, HAND AND POWER

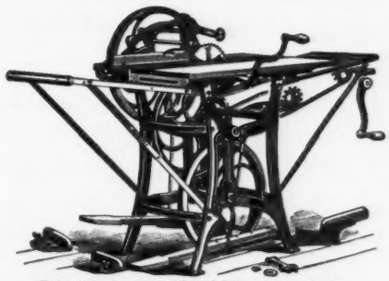
WOOD-WORKING MACHINERY

For Carpenters, Builders, Cabinet-Makers, and Other Wood-Workers

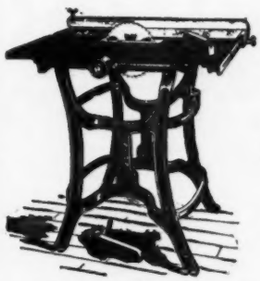
BUILT FOR HARD WORK, ACCURATE WORK AND LONG SERVICE


"Rex" Moulder.

ONE MAN with one of these machines will do the work of four to six men using hand tools; will do it easier, will do it better.


"Union" Combination Self-Feed-Rip and Cross-Cut Saw.

WE GUARANTEE each machine to be thoroughly practical and accurate. Machines sent on trial, and if not found entirely satisfactory, may be returned at our expense.


No. 8 "Union" Power Saw.

Enterprising mechanics are quick to see the superior merits of our machines. It will pay you to investigate these advantages.

SEND FOR CATALOG "A"

The Seneca Falls Manufacturing Co.

218 Water Street, Seneca Falls, N. Y., U. S. A.


No. 6 "Union" Combination Saw. (96)

Crescent Jointers Always Give Satisfaction

You may be in a hurry for a job and crowd a CRESCENT JOINTER to the limit of capacity, and get just as good work as though you had not crowded the machine at all.



Every fellow fortunate enough to own a CRESCENT JOINTER is so perfectly satisfied that when any of his friends want a jointer he tells them on the spot to order a CRESCENT.

You will do the same when you get one.

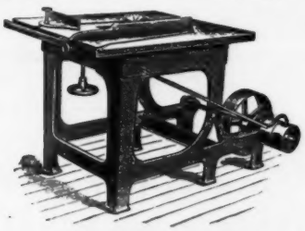
Catalog describing our elegant line of BAND SAWS, SAW TABLES and JOINTERS mailed on request.

SEND FOR IT NOW.

THE CRESCENT MACHINE CO.

224 Main Street - - - LEETONIA, OHIO

LOOK! Only $50.00 for an all Iron SAW BENCH with countershaft complete. It will pay you to investigate. Send for circular giving full particulars.



R. E. KIDDER,

6 Hermon St. - - WORCESTER, MASS.

MARSTON'S

Patent Hand and Foot and Steam Power

WOOD WORKING MACHINERY


30-inch Hand and Foot Power Band Saw.

J. M. MARSTON & CO.

227 Ruggles St., Boston, Mass., U. S. A.



Roebuck's Ventilators

FIT ANY WINDOW

$2.50 Each

Manufactured by
The Roebuck Weather Strip and Wire Screen Co.
Makers of the FAMOUS
ROEBUCK FLY SCREENS
Send for Catalog.



THE ROEBUCK WEATHER STRIP AND WIRE SCREEN CO.
177 Fulton Street, NEW YORK.

BURRITT MANTELS



Are growing more popular every day.

Whether you are a **home builder** or a **house builder**, Burritt Mantels will appeal to you because of their splendid design, workmanship, finish, price.

If interested, write for our catalog, and tell us how many mantels you need, what style, wood, etc. We make a specialty of complete outfits, consisting of

Mantels, Tiles and Fire-Place Goods

Architects and Contractors!

We are prepared to execute designs from architect's sketches on short notice. Let us hear from you.

The A. W. Burritt Company
"The Mantel Folks"
450 Knowlton Street, Bridgeport, Conn.



Will You Try This

VELVAC
VELVET FINISHER | VACUUM SHARPENER

RAZOR STROP
For 30 Days?

If you don't say it's the finest strop you ever used, regardless of price, we'll be more than glad to take it back and refund your money.

For the "Velvac" Strop is made on a new principle—only extra-selected cuts of leather with smooth, uniform grain are used.

The *Sharpen* strop is treated by our special *oil-filling* process. The oil absolutely closes the pores, and prepares the surface so when the razor is drawn over it, a *vacuum* or suction is formed. This *vacuum* pulls the razor blade closely to the strop, and produces an exceedingly *keen, sharp edge.*

The *finish* side of the strop is very smooth and supple with a *velvet*-like surface.

A few strokes on this finishing strop puts the blade into condition to shave the wiriest and stubbiest beards, cleanly and easily. The *velvet*-like finisher, and the *Vacuum* sharpener give us the name "Velvac."

30 Day Trial Offer—Velvac strops are made in two sizes: Large (23 in.), **$1.25**; small, **$1.00**. (West of the Rocky Mountains—large, **$2.00**; small, **$1.50**.) If your dealer cannot supply you, send direct to us. We will send either size postpaid on receipt of price. You can use the strop 30 days, and if you would rather have the money than the strop at the end of that time, we'll trade back without a murmur.

Sealskin Swaty Strop Company, Dept. D, Ottumwa, Ia.



DAVENPORT FOUNDRY & MACHINE COMPANY

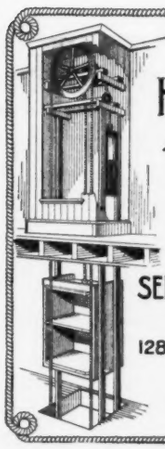
DAVENPORT, IOWA

MANUFACTURERS OF BUILDING CAST IRON
STRUCTURAL AND ORNAMENTAL STEEL

FIRE ESCAPES — STAIRWAYS
ALL SIZES OF { BEAMS, CHANNELS, ANGLES AND TEES } CARRIED IN STOCK
FENCES — GRILLES

Joist Anchors and Hangers Sash Weights

Write Department D for Estimates



DUMB WAITERS AND HAND ELEVATORS

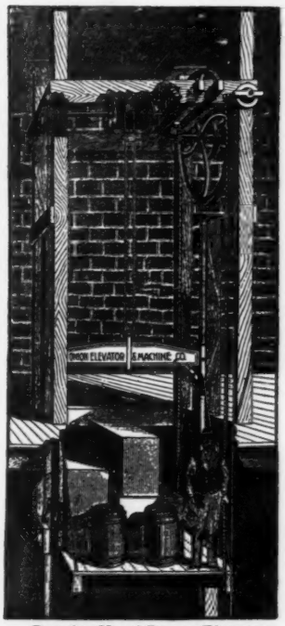
OF THE MOST IMPROVED AUTOMATIC CONSTRUCTION

INVALID LIFTS
TRUNK, CARRIAGE, SIDEWALK AND FREIGHT ELEVATORS

SEDGWICK MACHINE WORKS
POUGHKEEPSIE, N.Y.
AND
128 LIBERTY ST. NEW YORK

CATALOGS AND ESTIMATES FURNISHED SEE SWEET'S INDEX

"UNION" Hand Power Elevators



Regular Hand Power Elevator

ARE
"GOOD HELP"
"STEADY WORKERS"
AND
STAND MORE ABUSE THAN ANY OTHER MADE

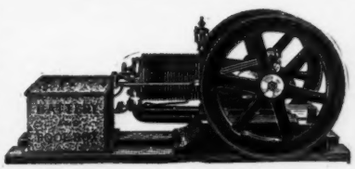
SIMPLE IN CONSTRUCTION
DURABLE AND SAFE
RIGHT PRICES ALWAYS

None Better

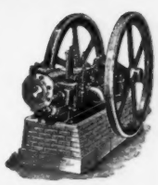
WE FURNISH ERECTION PLAN . . . YOU PUT THEM UP

Union Elevator & Machine Co.
144-6 Ontario St., . . CHICAGO

DON'T BUY
POWER



Until you investigate the merits of our special 2 H. P. "MONARCH" AIR-COOLED GASOLINE ENGINES. They will successfully and economically operate all kinds of light machinery, and if you will ask us about them, we know we can interest you and save you considerable extra time and money if you buy. Also make 4 to 20 H. P. Water-Cooled Gasoline Engines. Write us today.



MONARCH MACHINE COMPANY
309 E. 1st ST., DES MOINES, IA.

VERTICAL TRANSPORTATION
Passengers and Freight
TURNER
Electric, Hydraulic, Belt and Hand Power
ELEVATORS
K. C. ELEVATOR MFG. CO.
107-111 W. 19th St. Kansas City, Mo.
"NOT IN THE TRUST" Estab. 1882

CUSTOM MADE
FLY SCREENS

Our work is far superior to the usual output of local mills and has a style and finish not obtainable from those who do not make a specialty of screens.
For outside screens we use the identical finish of the outside of Pullman cars.
The best grades of Wire Cloth, enameled, galvanized, genuine bronze, etc. Fastened by tacks or by the "lock-strip" process.
Intending purchasers may have free by mail samples of woods, finishes, and wire cloth and copy of catalog and price list. Agencies in many cities. Special terms to contractors and builders.

The A. J. PHILLIPS CO.
FENTON, MICH.
23 Years' Experience. 3 1-2 Acres of Floors.

ELEVATORS

Modern ELECTRIC, BELT AND HAND POWER

For PASSENGER or FREIGHT SERVICE in Factories, Stores and Dwelling Houses

Our Elevators are noted for their Easy Running and Serviceable Qualities. They are practically self contained and can be erected by any carpenter in a few hours. We furnish Plans for erecting. When writing, state your requirements.

SIDNEY ELEVATOR & MFG. CO., Sidney, O.



It Pays to Buy Good

LEVELS

Catalogue Free
Sold by Dealers

Stratton

Levels are Superior

Stratton Brothers

Greenfield, Mass.

CARPENTERS—READ THIS

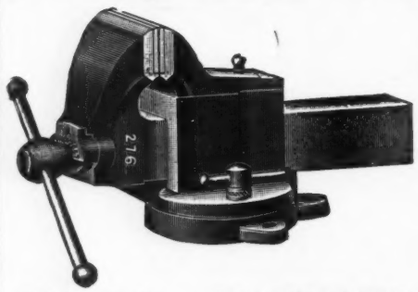
Buy a Davis & Cook Level



Buy of your dealer—or write us. The Davis & Cook Level is made of better material than any other. Can be used to plumb or level. Has two tubes. Can see them 10 feet away, and in any position—under or over. You know the trouble with the old style bulb-in-the-top levels—useless unless you stand over them. Avoid that trouble. We make them in wood, iron, aluminum. Guaranteed. Ask for Davis & Cook Level.

Davis & Cook, Makers. 13 High Street WATERTOWN, NEW YORK

PARKER VISES



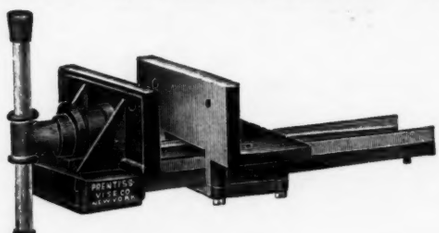
MADE ESPECIALLY FOR WOOD WORKERS.

FOR SALE BY DEALERS.

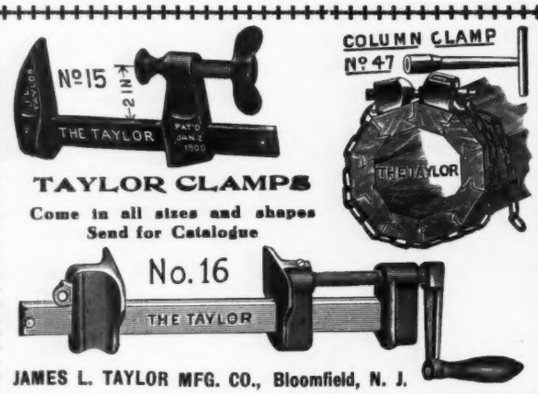
SEND FOR CATALOG.

CHAS. PARKER CO.
MERIDEN, CONN.

BLAKE QUICK ACTING VISE



For Cabinet Makers and Wood Workers. Simplest—Strongest—Cheapest—Best
Send for Catalogue of all kinds of Vises.
PRENTISS VISE COMPANY, MAKERS
44 Barclay Street, New York, U. S. A.



TAYLOR CLAMPS
Come in all sizes and shapes
Send for Catalogue

JAMES L. TAYLOR MFG. CO., Bloomfield, N. J.

Contractors and Material Men

NEED OUR
Catalog and Net Price List
OF

Builders Hardware

SENT FREE ON REQUEST

Rehm Hardware Co.
352 Blue Island Ave.
Chicago, Ill.



PRICE 45c SET

SUCCESSFUL ESTIMATING



Is the vital problem that confronts every builder. His success depends upon his ability to estimate the cost safely and accurately. The Lightning Estimator (fourth edition) prepared by a successful contractor, teaches the builder to estimate the cost in an easy, simple, safe, reliable, accurate and concise manner. A point mnch appreciated by builders is the great rapidity of this method over all others. Many builders using our methods have written us that they are estimating the cost of an ordinary building in 30 to 60 minutes. **Based on actual experience, not theory.** Gives the actual cost of labor and material for each separate part of the work, so that it may be easily adjusted to any locality. Guards against errors and omissions. Brief and handy. Each subject can be found at a glance. No unnecessary lingo, but clean-cut data enabling the builder to accomplish his end at once. This is the new edition, amply illustrated and bound in waterproof covers. Price $1.00 (money order or bill).

NOTE—This book is for estimating wood and veneered buildings and covers residence work from start to finish with the exception of plumbing and heating.

BRADT PUBLISHING COMPANY, 1260 Michigan Ave., Jackson, Mich.

Hight's Union Combination Square



FIVE TOOLS IN ONE

8-INCH TRY-SQUARE, BEVEL, MITRE MARKING GAUGE AND BUTT GAUGE

The protractor works over a segment on the base of the square, which is divided into three scales of 0 to 12, showing rise of inches on a 12-inch base. The opposite side of the segment is laid off in degrees. The notches in the blade are ¼ inch apart, making a dandy marking gauge. A notch in the lower end of the protractor is handy for a butt gauge. A mitre is cut in the base of the square or the protractor clamped on 12 of the first series makes a mitre. Many of the best dealers handle this square, if yours don't. We will send it prepaid on receipt of **$1.25.** Dealers and agents wanted in all territory.

THE HIGHT MANUFACTURING CO., 837 SPITZER BUILDING, TOLEDO, OHIO



FIREPLACES

Old-fashioned RUMFORD fireplaces, guaranteed to heat and ventilate without smoking. Manufactured of asbestite slabs. Crated and ready for immediate shipment to any part of the world. Write for sizes and prices. Install these forms in fireplaces already built, and under no circumstances build new fireplaces without them.

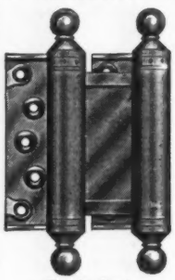
G. Curtis Gillespie, M. E.,
ARCHITECT
9 Warren St., New York City

Send $2.00 for my 12mo volume of "Rumford Fireplaces and How They Are Made." 200 illustrations. Illuminated cover.

CHICAGO SPRING BUTTS

TRADE CSB CO MARK

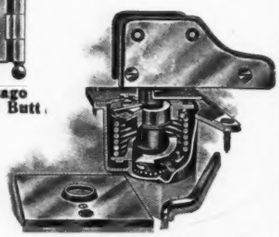
A PRODUCT OF RECOGNIZED SUPERIORITY



Triple-End Spring Butt



Chicago Spring Butt



Chicago Ball-Bearing Floor Hinge

Chicago Spring Butt Company

CHICAGO — CATALOGUE ON REQUEST — NEW YORK

PRESSED BRICK

In all Colors, Dry Press and Impervious

Wolverine Portland Cement
Peninsular Portland Cements
Louisville and Milwaukee Cements
Fire Brick — Fire Clay

Enameled Brick
Paving Brick
Mortar Colors

Thomas Moulding Company

1201-1202 Chamber of Commerce Building
Telephone Main 117 — Automatic 5828
CHICAGO



CEMENT TOOLS

If the quality of the tools you buy makes any difference to you, you should look into our line.

Thousands of the best workmen in this country buy our tools to the exclusion of all others because THEY STAND THE TEST.

Our cement tools are the best money can buy and at the prices at which we sell them they are "snaps."

Iron Edger as shown - - -	*50c*
Iron Groober to match - - -	*50c*

Our Catalog No. 3714 shows cement tools and tools needed by every general contractor.
It's free! Send for it!

ORR & LOCKETT HARDWARE CO.

Estab. 1872. CHICAGO

THE "SPECIAL" SAW SET



Every good Carpenter should have "one" in his kit, because they do perfect work — everyone says that they do.

They are fully warranted in every respect.
You take no chances.

CHAS. MORRILL,
283 Broadway, NEW YORK

The NEW MARSH-LANGDON and IMPROVED MITER BOXES



All have Corrugated *Metal* Bed Plates—same are ground *true*, and cannot warp and split like thin Wooden Plates. Made in 4 sizes and 40 numbers. Ask your dealer to show you one, and if he does not carry them in stock, ask him to order one for you, for you want the *best*.

Write for circulars and prices.

Manufactured only by

H. C. Marsh
606 Race Street
Rockford, Illinois

LIBRARY OF CONGRESS
Two Copies Received
APR 8 1907
Copyright Entry
Mar 25, 1907.
CLASS A XXc., No.
140700.
COPY B.

Copyright 1907, by American Carpenter and Builder Company.

AMERICAN CARPENTER AND BUILDER

THE WORLD'S GREATEST BUILDING PAPER

American Carpenter and Builder

Entered as second-class matter July 1, 1905, at the postoffice at Chicago, Ill. under the Act of Congress of March 3, 1879.

WILLIAM A. RADFORD, EDITOR-IN-CHIEF.
WILLIAM REUTHER, EDITOR.
ALFRED W. WOODS, ASSOCIATE EDITOR.

Published monthly by

American Carpenter and Builder Company
185 JACKSON BOULEVARD, CHICAGO.

WILLIAM A. RADFORD, President.
CHARLES W. RADFORD, Vice-President.
O. F. BYXBEE, Secretary and General Manager.

VOL. III. APRIL, 1907 No. 1

The AMERICAN CARPENTER AND BUILDER is issued promptly on the first of each month. It aims to furnish the latest and the most practical and authoritative information on all matters relating to the carpentry and building trades.

Short practical letters and articles on subjects pertaining to the carpentry and building trades are requested.

SUBSCRIPTION RATES.

One year, $2.00; six months, $1.00; payable always in advance. Single copies, 20 cents. Foreign subscriptions, $3.00.

SUBSCRIPTIONS may be sent by check, express or money order, or registered letter. Make all remittances payable to the American Carpenter and Builder Company. Postage stamps are not desirable, but if necessary to remit them, two-cent stamps are preferred.

IMPORTANT TO SUBSCRIBERS.—Do not fail to notify us promptly if you wish your magazine forwarded to another address than that originally ordered. We will not guarantee to furnish missing numbers in cases where subscribers have neglected to inform us of their change of residence. We will be pleased to change the address of any subscriber at any time, but have no means of knowing that they have moved unless they notify us of the fact. The postoffice authorities will not forward newspapers or magazines from one address to another unless extra postage is paid by the subscriber. Write us as soon as you move, giving your new address, and we will correct our mailing list and there will be no delay in your getting your magazine.

ADVERTISING RATES.

Furnished on application. The value of the AMERICAN CARPENTER AND BUILDER as an advertising medium is unquestioned. The character of the advertisements now in its columns, and the number of them, tell the whole story. Circulation considered, it is the cheapest trade journal in the United States to advertise in. Advertisements, to insure insertion in the issue of any month, should reach this office not later than the 20th of the month preceding.

Our Cover

WE HAVE received many compliments on the attractiveness of our magazine and particularly on the covers, which we have changed from month to month. We have been planning for several months the attractive novelty which we present on this, our "Second Anniversary Number and Builders' Edition." Those who have seen it are astonished at the remarkably true appearance of the mahogany. The grain is exact, as it is a photographic reproduction from a large and beautiful piece of mahogany veneer, and in the coloring we have so closely reproduced the actual coloring of the finished product that it is hard to realize that it is not wood instead of paper. After months of experimenting we feel that the result fully warrants the time, thought and expense which we have put upon it. We believe this is the richest cover we have ever presented, and that it will merit preserving by every one of our 26,000 subscribers.

False Gentility

ONE of the things to be most lamented is the feeling of false gentility among our young men. They have the idea that good honest manual labor is degrading and instead prefer to go to a large city where for a mere pittance they will stand behind some counter and imagine they are becoming more "genteel." If they mean that they are getting weaker in both body and mind they are correct, but true gentility means above all things to do to the best of your ability what you are most adapted to, no matter in whatever walk of life you happen to be.

The power to accomplish something really worth while, to do something that will broaden your mind and enable you to do greater things was never acquired at some soft job. A young man working at the carpenter trade, healthy and manly, has greater possibilities and a better future before him than he ever could have in a large city where thousands of others are chasing the rainbow of easily gotten wealth, which seems so alluring but is never reached.

Probe Cost of Capitol

THE unearthing of enormous overcharges by contractors still continues in the investigation of the Pennsylvania state capitol. It was brought out that

the state paid $90,748.80 for two rostrums which cost the sub-contractor $2,060, or $88,688.80 less than the state paid for them. It was also developed through the investigation that $155,369.60 was paid for "designed woodwork" in fourteen rooms when the actual charge should have been $28,724. This was done by putting in a putty composition which looked like mahogany and charging for real mahogany. It has further been discovered that the total cost for "monumental art bronze, standards, brackets and chandeliers," is $2,258,955.96, instead of $2,049,522.96 as first reported. The increase is due to the discovery of $137,600 charged for "modeling and sculpture work with patterns" and $71,833 for "additions and alterations in the electrical equipment of the building." Besides charging by the pound for the chandeliers, a charge of $100 per foot was obtained for making each model. In the senate this model cost $13,300, which was based on "square measurement," both breadth and height of fixtures being taken.

Precautions

AFTER you have lost a week's wages through the hole in your trousers pocket, you arrange to have it repaired. But that does not bring the money back; still, it keeps what you have safe. If you had exercised a little precaution the money would not have been lost, and your temper would still remain sweet. So it is in your daily work at the trade, after you have come down with a broken scaffolding or had your finger ripped on a band saw you begin to examine your scaffolding before going up or take more care when working with the saw and insist on its having a guard. There is such a thing as being too cautious; still, it is better to err on the right side than on the other. Many a man has lost his fingers through being too familiar with the saw. It should never be forgotten that a circular saw is a cutting tool, and not a steel disc. This is so easily forgotten that only an accident arouses the knowledge in some men's minds, and then for a few days they are careful at their work. Never cross-cut timber with the left arm close to the right hand of the saw. A sudden slip, and it means a serious hospital job. Never put your hand against a strip after it has been reduced to about one inch in thickness, but use a block in your hand against the strip. You can put just as much pressure into your work, and should the wood jump, or if it is a shaky piece and goes through before you anticipate it will do so, the block of wood goes against the teeth instead of your fingers.

Estimating Millwork

MANY of our most valuable suggestions in shaping the general policy of our magazine have been received from our subscribers and we are pleased to note that our advertisers are also taking an active interest as they are beginning to realize that a publication such as ours has considerable influence with its large list of subscribers. The following letter was recently received and as the idea conveyed was a very good one, we thought it would be of interest to both the subscribers and advertisers to publish the same in full:

AMERICAN CARPENTER AND BUILDER, CHICAGO, ILL.
Chicago, Ill.

GENTLEMEN: The writer has once or twice expressed himself to your Mr. Radford regarding a matter that we believe your paper would take up to considerable advantage, not only to its subscribers but its advertisers. That is, regarding sending in to the wholesaler for estimates, sets of plans and specifications without any definite list being drawn off.

The usual expression given in the letter asking for prices in this way is about as follows: "Please give us your lowest figure on everything in the millwork line that you can handle to advantage."

Now, our institution might figure that we could handle perhaps nine-tenths of the items ordinarily understood as millwork. Another institution figuring on the same job might consider eight-tenths of the so-called millwork being what they could handle to advantage. The list of materials as described may cover two or three sheets of closely written items, and not one inquirer for prices would check over item for item to see whether all concerns figured on the same material or not. Our price would probably be higher than the other party, and some third party might have figured ten-tenths of the so-called millwork at a still higher figure. The one who figured on the least part of items would undoubtedly get the order. The contractor or dealer, whichever the case may be, when he comes to get this material in, would find a shortage, and the wholesaler would call his attention to the heading of their estimate, "We agree to furnish such items as are specified."

A disagreement results and the wholesaler will lose a good customer through no fault of his, or if he finds the controversy going against him, will give in and furnish the additional material at a small extra cost, losing his legitimate profits on the bill by so doing as a matter of business policy.

Our claim is this: From years of experience with the contractor or the dealers in sending out for prices, they would themselves be greatly benefited if they would draw off their own list of items and send the same list together with details or plans to the various houses so that each concern would figure on exactly the same items, then they would have a list of comparative bids that would be worth something.

Yours very truly,
CHICAGO MILLWORK SUPPLY COMPANY.

The request made by this concern is exceedingly fair and legitimate, as all they ask is that all wholesalers be given an equal chance to bid on work. It is the prime object of all reputable concerns to give perfect satisfaction and avoid as far as possible any misunderstandings with the prospective purchasers. With the present status of affairs, this is almost unavoidable as each party is figuring from a different basis and the remedy which is here suggested is an exceedingly good one and fair to both parties and should receive careful consideration of everyone interested.



A Comparative Study—Two Contracts Let on the Same Date

This Man's Contractor was a Subscriber to the American Carpenter and Builder

This Man's Contractor Wasn't

Types of Architecture in the Torrid Zone

BY J. R. WHITE

NOWHERE in the world does one see better the contrast between the new and the old than at Dar-es-Salaam. At one end of a long street is the most modern of modern villages; at the other end the most primitive of settlements. The greater part of the new town was built not more than five years ago; the surroundings are as old as the hills.

The colonies of many nations lie along the East Coast "Cape to Cairo" voyage. Every colony has had an interesting history; every seaport is sufficiently unique and beautiful to satisfy even the very blasé tourist. Our most hardened fellow traveler assured us that Japan and India and all of the islands of the sea do not possess the attraction of this line of coast settlements.

The beauty of all the other places pales beside the memory of Dar-es-Salaam. The Germans may not have had in mind to excel the other colonies, and to make the capital of German East Africa the loveliest spot on the coast, but Dar-es-Salaam is unquestionably this. It lies between the Portuguese capital, Mosambique, on the south, and the sultanate of Zanzibar and the English town of Mombassa on the north. These centers are as yet larger and more important commercially, but if Dar-es-Salaam cannot furnish a boat load of cloves, which is the source of wealth of Zanzibar—or the millions of peanuts which are heaped in the hold at Mombassa, it at least gives to the tourist a permanent possession in the picture of surpassing beauty the name recalls.

The great ocean steamer has to thread its way carefully into the harbor—extremely narrow at the entrance and as winding as a river. It comes to anchor opposite a town of unusual loveliness—"the abode of peace." The banks are vividly green, the cocoanut palms are silhouetted against the bluest of skies, the cream adobe buildings with their red tiled roofs amidst the tropical foliage add to the intensity of coloring. In the distance beyond the avenue of scarlet flamboyant trees are the brown woven huts of the natives.



Post Office

It is evident that we are a German boat nearing a German colony, and that the arrival of the mail, and contact with the outer world, are events in the colonist's life as infrequent as they are desirable, for all at once boats dart upon us from every direction. We are like a great bird of prey being pounced upon by all the small birds at once. German officials are on the gang plank greeting German officers — there is a flow of good spirits, in more senses than one. The natives in their canoes need not entreat us so dramatically to land —we are only too glad of a day or two ashore.

You ask to be shown the postoffice, and the little black urchin who is singing "Uber alles Deutschland" directs you in German a shade better than your own to an artistic Moorish corner—a building which serves its purpose and is at the same time as cool and airy and pleasing as it should be to blend with its surroundings. Since the mail ship is in, the postal clerks are as busy as possible, but every official here from the highest to the lowest seems to feel that he is host for the town. The postmaster tells us genially all we ask and more, and offers us his own rickshaw boy that we may see just what we have come to see. The building across the street where those who have acquired the picture-post-card habit are swallowed up

and lost for the rest of the morning, is like the rest of the new shops along the business ways, and artistic enough to attract a second glance. It is Arabic in design and might have been built by the Moors centuries ago; instead of by the Germans of yesterday.

Dar-es-Salaam shows what may be accomplished when there is plenty of labor, plenty of room, and the leisure to deliberately plan a city. Every public building is designed for effect as well as for utility. The surprising thing is that so many diverse types of architecture have been blended in each building, and that the whole is nevertheless harmonious. It seems to be a German characteristic to remain first of all conservatively German and yet profit by the best other nations have to offer. The house of the military commander is surmounted by a sort of German cupola or turret, as distinctively German as the flag itself, with its white plaster and brown cross pieces. The Moorish court below and classic pillars sound incongruous, but they do not appear so. The men in this equatorial region protect their heads by hats of thick grey felt with double brims, and the houses wear a similar covering in their double roofs, with a breathing space between.



Typical Residence

A few of the larger buildings and a neat row of workmen's cottages are of the brown and white cross barred German type, but this transplanted style is far less pleasing than the Moorish architecture which suits the climate—cream adobe with red tiled roofs.

Two things the architect has to keep in mind here. The Germans wish the capital of their colony to be beautiful, therefore the house must be artistic; Europeans desire to keep alive in this corner of the torrid zone, so the house must be cool. One has an opportunity to see how this is accomplished from within as well as from without, for this is a city in the making. A home just completed and occupied stands near one that is receiving its finishing touches. One has the pleasure of exploring any number of new houses—and who would not agree that the next best fun to planning your own home, is criticising the interior arrangement of your neighbor's new house? Here there seemed to be a continual expression of approval rather than criticism. More than one tourist photographed a house that pleased his fancy, finding in these model residences designs worth duplicating.

The thick strong walls of cream plastered brick or adobe are capable of defying the sun and, it would seem, time as well. The lower floors are often invitingly cool with their deep Moorish arcades and wide verandas. Above, the balconies are shaded by the far overhanging roof. Here and there in the sheltered towers on the hottest nights, the sleeper can leave the damp impress on his bed, and finish the night under the stars, fanned by the fitful breezes from the Indian ocean. In the basement and in the roof are many openings—breathing spaces—that all the air there is stirring may draw through and cool the heated surfaces.



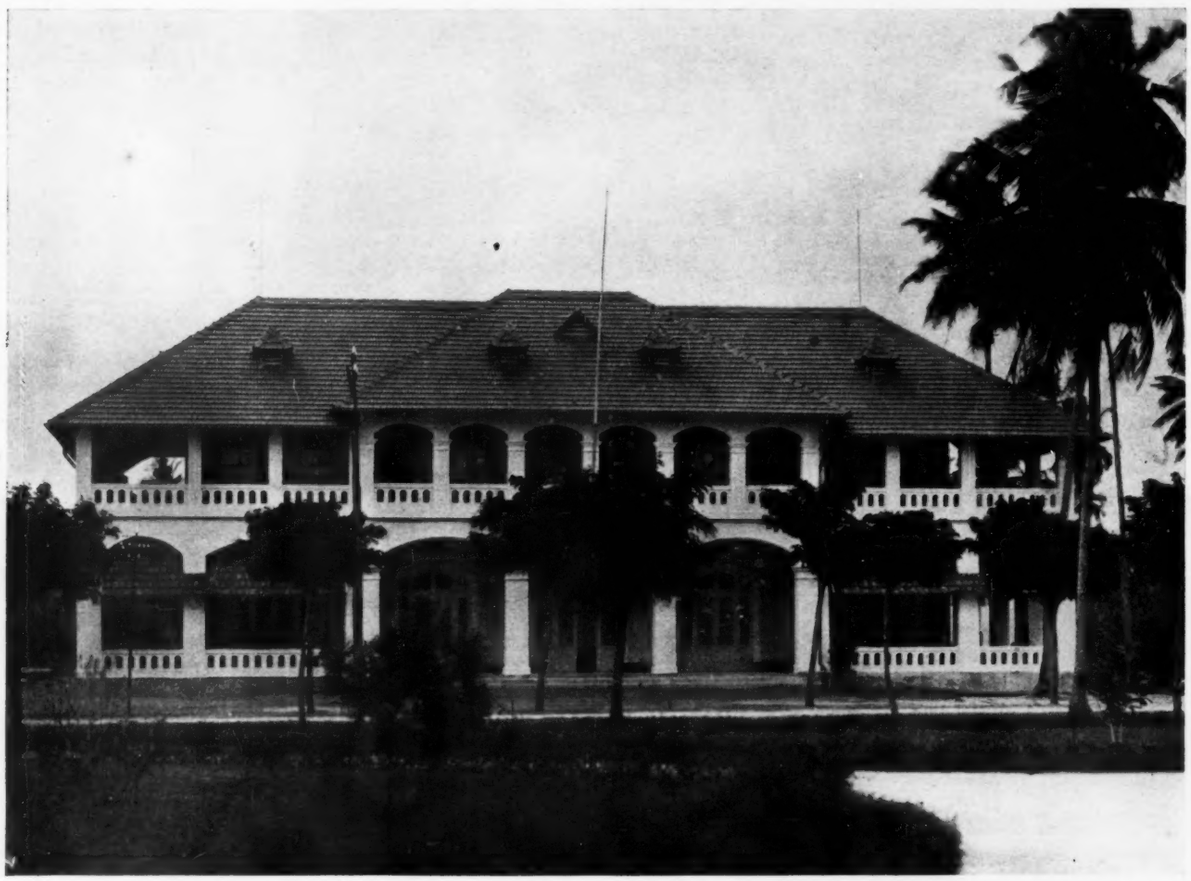
Charming House Where Many Types are Blended



Huts in the Native Quarter

A new house that we explore pleases our fancy in spite of the fact that it combines every type of architecture. One corner tower is old Moorish and the other new colonial and nonedescript corners alternate; which proves that it is better to build for use, rather than around a name, and that baroque is not necessarily a term of contempt.

Our rickshaw takes us down a long road past the



The Newest Hotel

laborers' homes, fronted with deep verandas and shaded by screens woven by the natives—cream and red, and as trim as a procession of red capped soldiers. The cocoanut palm does everything for the landscape here—its graceful lines interfere with the primmest and most awkward attempts of man; no building can look commonplace amidst tropical palms, with the tall cocoanut trees for background.

Never were there more inviting hotels. Instead of the customary heavy ugliness, there is coolness and simplicity and elegance. The immense square hall is in white mosaic, and furnished with the lightest wicker furniture. Its glass doors show beyond a court yard shadowed by fern trees and tropical plants. Instead of crowding the guests into the least space possible they are given plenty of room in the commodious chambers around the court. On the wide verandas above and below the tourists congregate. There is a view of the bay, with its many green islands where the cocoanut palms lift their heads into the red sunset sky—one hears the clinking of ice in the glasses, the sound of music and laughter, and daylight passes into dusk. Then the moon silvers the water, a cool breeze sweeps across the point, and we begin to discuss allowing the boat to sail without us. We have reached the land of the lotus eaters—surely a month or a year is not too long to linger.

Things look different in the morning very often. The next day as we explore the town under the direct rays of an African sun, we cast our eyes occasionally toward the sea, lest our boat should forget times and seasons, and sail without us. The size of the hospital is the best witness that these attractive towns in the tropics are not the most healthful spots in the world. This is usually the most imposing building in the colony and at Tanga and Dar-es-Salaam the tourist often mistakes it for the sultan's palace—until he learns that there is no sultan—when he substitutes governor's mansion.

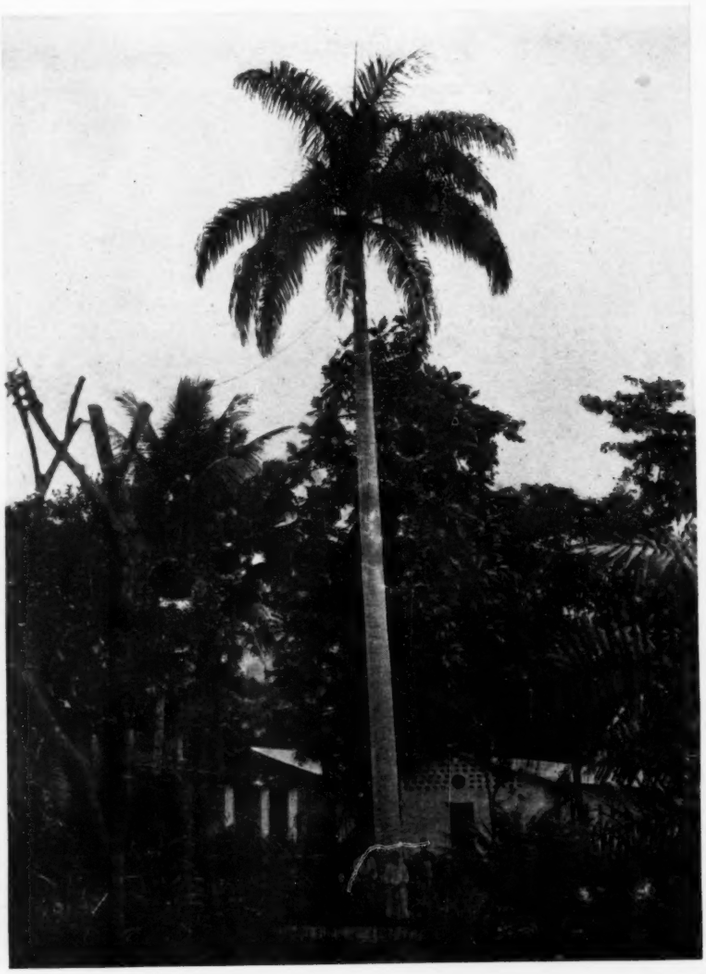


Home of Count and Countess Von Goetz

It would seem that a great park had been laid out and then the governor of Dar-es-Salaam had located his mansion and the houses of many of his officials in its most inviting retreats. Until recently the Count von Goetz and his American wife dispensed hospitality from their Oriental palace. It is set in the midst of giant ferns, palms and fragrant frangipani, with terraces leading down to the sea. Liveried servants move noiselessly through halls furnished in ivory and ebony. Who would not leave noisy Chicago to be a queen in a palace in this enchanted wood overlooking the Indian ocean? We agreed that necessarily and willingly, we would forego the monotony of life that

the attendance of a retinue of servants involves, and that we preferred the twenty years of Europe to the cycle of Cathay.

From the new quarter of the town, with its most modern hospitals, residences, shops and offices, the road leads to the native village. The business street leads into an avenue shaded by flamboyant trees—the tree is like an immense long handled green umbrella—the lacy canopy is covered thickly with flaming flowers. It makes the most brilliant line of color from a distance, and a very desirable shade for the burning streets. Behind our rickshaw boy we skim along through the paths of the park, shadowed with huge tropical palms and fragrant with the scent of many delicate Oriental odors, and reach the cocoanut groves beyond. Near the top of the tall trees one counts a hundred or more of the nuts in their shining golden brown outer cases. Our boy absolutely declines to listen to our suggestion that he climb the tree and bring us down a cocoanut. German discipline is severe and two stripes is the sure penalty.



Huts in the Cocoanut Grove

The native quarter is another example of German discipline. The blacks are naturally as clean as the natives from Hindostan and Malacca are dirty, but in this little settlement they are made to be not only clean but orderly. The greater number of the huts were built by stakes being driven into the ground and brown pliable limbs being interwoven. Occasionally there is a little house of white plaster. It all resembles a neat array of huge brown cocoanuts, halved and arranged in rows with here and there the white of a broken one showing.

We were congratulating ourselves that there was not in the whole range of vision a thing modern, or at least American, as we drove back through the avenue in the cocoanut grove outlined with pineapple plants, each with its heavy golden head. The native women crossed our path, erect and handsome as ebony statues, going to the spring in the woods for water, carrying gourds in their hands; but, alas, instead of the jars of brown hand-made pottery there were poised upon their heads, kerosene tins of the all too well-known label that spelled Chicago and monopoly, and recalled the strenuous life we were trying to forget.

Exterior Finish of Buildings

In the course of a paper read before the recent convention of the Iowa Association of Cement Users, P. P. Comoli, of Sioux City, Ia., made some interesting suggestions on the best methods of finishing old and new concrete surfaces.

"Methods of finishing buildings on the exterior," says Mr. Comoli, "are various, and on all buildings the exterior appearance can be given the same effect. Take a concrete wall or a building as an illustration. First, after the building is constructed and the forms are removed, you must start from the top in preparing the walls for the finish you intend to put on. Wet the wall thoroughly and then apply mortar in the proportion of two parts of sand and one part of cement, with a plastering trowel. If the surface is smooth, the mortar must be applied with some force, throwing it from the trowel, and the mortar must be quite soft. It reaches the wall in the form of a splatter-dash and is allowed to stand until set, thus giving a bond. You may then proceed to apply sufficient mortar to bring it to an even surface, marking it off into any design fancied, while the cement is still moist.

"Color can be mixed with the cement as desired, with good results. This work can be done in connection with any building material, and will answer as a background for the structure."

Short Talks with our Subscribers



Important Notice

When your subscription expires, renew at once, using the blank enclosed in your final copy. If it expires with this issue, your renewal must reach us before April 25 to avoid missing the next number. Use P. O. or Express Money Order if possible, but bills or 2-cent stamps may be sent at our risk.



YOU will probably take considerable pride in showing this, our "Second Anniversary Number," to your friends. We promised you last month that we would exceed any previous issue this time, but as we have had some extra fine numbers in the past you probably doubted our ability to improve on our previous efforts. We think we have. What do you think?

This is by far the largest magazine we have ever published. Leaving out of the consideration the very interesting and nicely illustrated description of our new offices, there is much more reading matter than has ever appeared in any single number, and our editors have tried to make their contributions of greater interest and of more practical benefit to our subscribers. We have used more photographs than ever before, and they serve to nicely illustrate the highly interesting articles. We are trying to improve the magazine with every issue, and judging by the many unsolicited compliments we have received we conclude that many others beside ourselves believe we have succeeded.

Our Advertising Pages

There is also a far greater number of advertising pages than has appeared in any other number. This is of decided benefit to our readers, as we are trying to make these pages as complete a catalogue of the requirements of carpenters, builders and contractors as possible. We want every possible branch of the business thoroughly covered, so that when a subscriber is in need of a tool of any kind, or material of any kind he will find what he wants in the pages of his magazine. We accept only reliable advertisers and that our subscribers realize this is evidenced by the large number and ever increasing number of orders our advertisers are receiving for their goods.

Confidence has a great deal to with successful business transactions. Our subscribers have confidence in us, and through our vouching for our advertisers they have confidence in them. This leads to many satisfactory business transactions between subscriber and advertiser. This leads to confidence between the advertiser and us, and it all helps us to make the increasingly better magazine which we have spoken of above.

Is Our Directory Complete?

Perhaps there is some line of material that you fail to find in our advertising pages. We have been looking them over to see what is missing, but they seem fairly complete. Is there anything you have need of that is not enumerated? If there is we will appreciate it if you will let us know. Write us about your needs and if they are not in these pages we will gladly recommend reputable firms which will supply you. There are frequently items which you are unable to purchase at home and it would be a source of considerable satisfaction to you to know where these items could be secured from responsible firms. For instance, could you use in your business, or in the building of some customer for whom you are erecting a building, an inside telephone system. If you have several rooms in your building, or you have rooms on different floors, a telephone system could be installed at small cost and save its price in a short time through the saving of running up and down stairs, or running about to talk with your foreman or employes. Then, too, you could very easily secure the agency for such a system, installing it yourself, and making a neat little sum in commissions. If you would be interested in such a proposition write us and we can put you in touch with a first-class manufacturer.

Binders for Volume II

We neglected to announce last month that we would be prepared to furnish binders for Volume II at the same price as last year—50 cents. We have succeeded in arranging for a much more attractive binder this year, and one which will make an ornament in your office or in your home. It is bound in green cloth and stamped with pure white across the front, "American Carpenter and Builder, Volume II." These will be ready for shipment about April 15. Send in your orders at once, and we will fill them in the order in which they are received.

Our May Number

We are already planning some very nice features for our May Number. Our leading article will be a beautifully illustrated description of some of the handsomest gateways in this country. One of these illustrations will appear on our cover page next month, and will add greatly to its attractive appearance. The photographs and descriptive matter are by Waldon Fawcett, who has furnished some of the most interesting articles we published last year, but we think this will please you more than any of the others. Architects and contractors will find many new and practical ideas in the illustations.

British Parish Churches

GIVING SOME OF THE BEST TYPES OF ARCHITECTURE FOUND IN ENGLAND — HARD TO SELECT BEST ONES AS ALL ARE GOOD

By George E. Holt

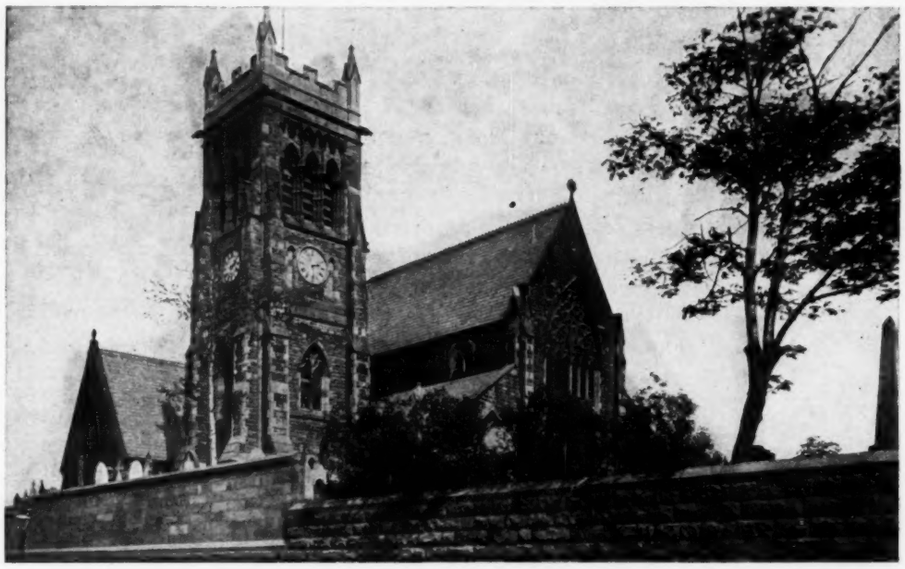
IN this series of articles upon the architecture of Great Britain, we have touched upon the modern methods of brick and steel construction, and have compared these buildings of modern times with those of ancient date. The different styles in the different portions of the country have been pointed out, and we have dealt with Abbey, Cathedral, Castle and Monument. And now, in conclusion, we have to deal with the quaintest and oldest of old English buildings; buildings around which more romance clusters than clusters about the castles; buildings, some of them older than the oldest of the castles, and in a better state of preservation because of the deep regard in which they are held by the people—the so-called common people of the country. And these buildings are the Parish Churches.



Parish Church, West Kirby

In all ages mankind has put its finest work upon its churches. In the face of all odds, overcoming all obstacles, humanity has builded its places of worship, and today the best examples of architecture and building are the religious edifices. Among every nation it will be found that each epoch in that nation's history is marked by a church of such character as to have survived the events which have changed all else. America has but few old churches, for America is a young country, but it may be said that British churches are all old. It is true that in most of them the gospel was being preached centuries before the first church bell sounded in America, summoning the Puritans to their devotions.

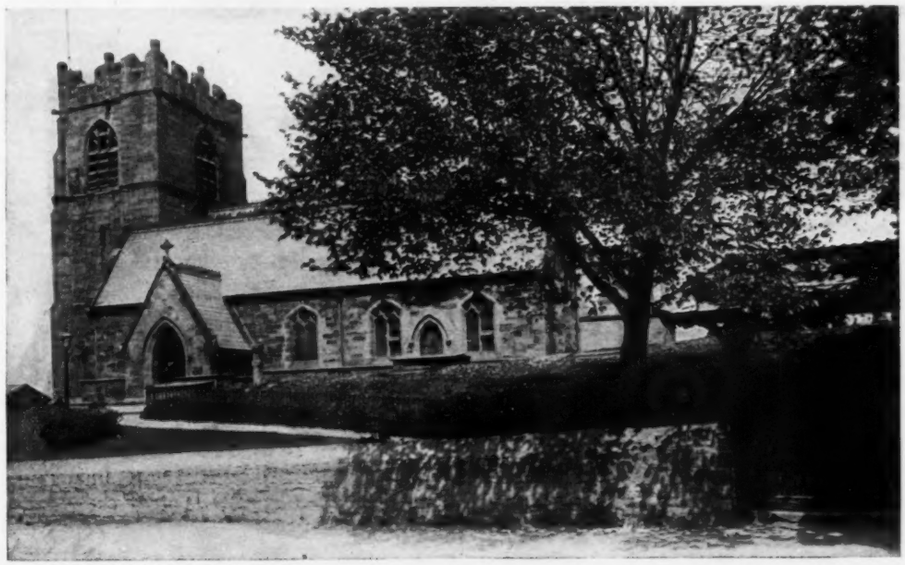
One of the most impressive things about Britain is its wealth of places of worship. One stumbles upon them at almost every turn, in the most out-of-the-way places. Tiny villages of a half a dozen houses boast their church — an edifice that would put to shame some of the so-called churches in comparatively wealthy American parishes today. Sometimes one will be found nestling among the hills far away from any human habitation. There are many fine churches and cathedrals in Britain, but it



St. Michaels, Garston

is the wealth of smaller ones which bears the weight of testimony that the Briton is religious.

To select a dozen of the finest parish churches would be impossible; they are all so good, and there are so many of them. Take any group and you have a representative assortment. About each church, were you to investigate it, you would find clinging a collection of legends and historical facts sufficient to fill a good-sized volume.



Bedstone Parish Church

But the facts that make English churches of interest to the American builder are these: America is constantly building churches. English churches are not like American churches, consequently the comparison is interesting. Many English churches have stood for a thousand years, and still a few are even older. Will the churches that America is building now be standing a hundred years hence, providing the ground upon which they stand is not wanted for business purposes? Our illustrations show a group of parish churches, illustrating better than words of what material and with what stability they were builded. Crosthwaite church, at Keswick, England, which is dedicated to St. Kentigern, was built in the sixth century. In 1845 it was repaired—quite a space of time between the sixth century and the twentieth. St. Gile's Cathedral, at Edinburgh, dates from the twelfth century. Its stained glass windows are of unusual excellence. At Kendal, England, is a parish church—the second largest in England—built by King Stephen in the thirteenth century. The sculptured heads of King Stephen and his Queen may be still seen on either side of the entrance. At Ings, a little English village of a half a dozen houses, I found a parish church standing like a quaint sentinel at a bend in the road, its stubby tower seeming to bid defiance to time.

Then there is the church at West Kirby, and St. Michael's at Garston, surrounded by their quaint "God's Acres" and bidding defiance to the ravages of time. The clocks in the towers of these same churches still toll the hours as they did centuries ago—monuments of the clock builders' as well as the church builders' art.

The old Bidston church boasts no clock, but its weatherbeaten walls are just as old and quaint and enduring as are those of the other two.



Catholic Church, Seaforth Sands

Our last illustration is that of the interior of the Catholic church at Seaforth Sands. The carved pillars, exquisite paintings and windows, the statuary and other decorations, are older by hundreds of years than the memory of the oldest inhabitant. There they stand in an almost perfect state of preservation.



STEEL SQUARE.

ALFRED W. WOODS

How to Use the Steel Square

THE ORIGIN OF CIRCULAR MEASUREMENTS AS APPLIED TO ANGLES—OLD AND NEW SQUARES AND THEIR RELATION TO CIRCULAR MEASUREMENT—THE KEY TO THE STEEL SQUARE AND HOW TO APPLY IT

THERE is no angle in any kind of work but what may be obtained with the aid of the steel square, but before going further, we wish to call the reader's attention to the fact that the steel square is not the whole thnig. In other words, it is to the angles only as a reading instrument to the divisions of the circle, which is divided into 360 parts,

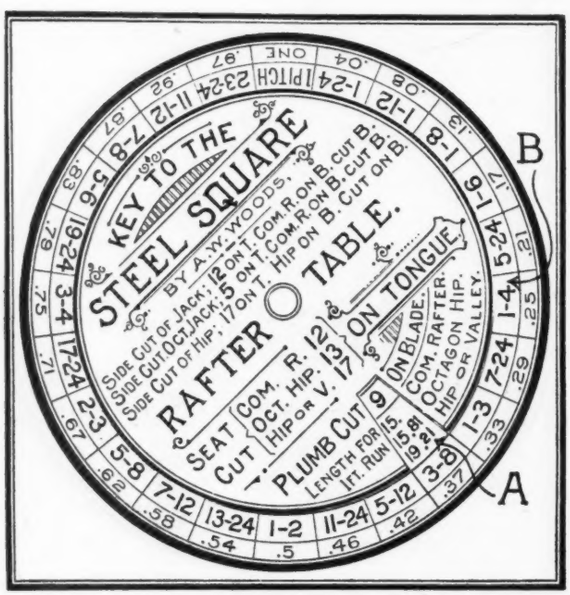


FIG. 110.

called degrees, and these parts subject to other divisions and re-divisions, but it is not necessary as far as joinery work is concerned, to go into these smaller divisions. The divisions then of the circle form the basis for the reckoning of all angles. However, only one-half of the circle is needed, as the divisions can be read from either left or right, thereby completing the circle. The reading point is reckoned from the center. An instrument semi-circular in shape with the degree divisions marked on same, can be had at most any up-to-date book, or art store, and is known as a protractor. We are told that Eratosthenes, an astronomer, was the inventor, or rather the discoverer of this method of reckoning circular measurements about 250 B. C. The right angled instrument generally known as a square, is too, an old instrument, dating back hundreds, perhaps thousands of years, but it is not at all likely that it was used very extensively for the purpose of obtaining angles. In the Field Museum, in Chicago, may be seen a number of antiquated instruments of various kinds found in ancient ruins. Among them a square, crude in workmanship, void of any divisions or markings and covered with the green mould of past ages. Yet, strange as it may seem, there are countries, or sections of countries where the square is practically unknown as an instrument of intricate framing utility. We have a number of letters from mechanics in foreign countries asking in regard to the American make of steel squares, the price, where they may be had, etc. One man said that he had only seen one and that he wished to procure and learn how to use it. Recently while talking with an old mechanic from our mother coun-

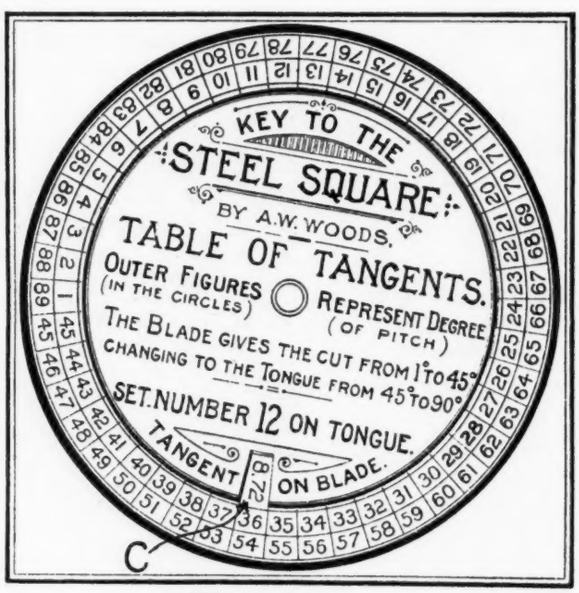


FIG. 111.

try, we were informed that the square was not used where he was brought up in the trade. In its stead, large set squares were used for squaring the

ends of timbers and bevels were applied to diagrams or the protractor for obtaining the angles. Old as the protractor and square may be, it is not at all likely that their relation to one another was fully understood even by their makers, or if they did, there is a wide break in the records down to quite the time of the present generation. So far as we have been able to learn from the books published prior to that time on joinery, dating back for more than a hundred years, and while some of them even surpass the present-day publications in clear-cut diagrams, the square is almost wholly ignored as far as obtaining the angles is concerned. It is therefore only within the time of the present generation that the square—steel square, as we call it—has come into general use as a framing instrument, and that our own country leads the world in producing the finest made article. Much has been written as to how to use it, but as it is susceptible of many changes in scale, yet producing the same results, usually ending in a bewildering study, the would-be learner many times gives it up as a hopeless task.

For regular work—that is,where the pitch has the same incline on the different sides of the roof—it is better to use the full scale. In other words, 12 inches to the foot, regardless of the size of the building, or pitch given the roof; the lengths, cuts and bevels can all be reckoned from this scale. We will now illustrate this point further, by the use of our own instrument—"The Key to the Steel Square."

Fig. 110 shows the instrument set for the ⅜ pitch. In the slot at A is shown the rise and the lengths of the rafters for a one-foot run, as follows:—

9 represents the rise; 15 the length of the common rafter; 15.81 the length of the octagon hip; 19.21 the length of the common hip, or valley; ⅜ represents the pitch, and .37 represents the equivalent of ⅜ in decimals. These decimal numbers are placed here for convenience in finding the value of the decimal fractions in the lengths of the rafters. Thus, for the value in common fractions of .81, look in the outer ring for that, or the nearest number to it. It is found to be .83, and is opposite 5-6. Therefore .81 is practically equal to 5-6 of an inch. .21 is found to be equal to 5-24 of an inch. Now we will apply these figures to the square, as follows:—

(See the figures in the brace at Seat Cut.) 12 on the tongue and 9 on the blade gives the seat and plumb cuts of the common and jack rafters; 13 on the tongue and 9 on the blade gives the seat and plumb cut of the octagon hip; 17 on the tongue and 9 on the blade gives the seat and plumb cut of the hip rafter. The side cuts given on the Key, and applied to this example, are as follows:—

12 on the tongue and 15 on the blade gives the side cut of the jack, the blade giving the cut. These figures also gives the cut across the face of the roof boards to fit the hip, or in the valley, or plancier, when the same is set to the pitch of the roof, the tongue giving the cut. 5 on the tongue and 15 on the blade gives the side cut of a jack to fit against the octagon hip, the blade giving the cut.

17 on the tongue and 19 5-24 gives the side cut of the hip or valley, the blade giving the cut.

There are other cuts and bevels that may be obtained from the figures here shown, such as cutting vertical or horizontal boards to fit in the gable, miter cuts for the roof boards, backing of the hip, etc., but as these are given in the book of instruction, will not give them here.

If we wish to find the cuts for the ¼ pitch, turn the disk until the slot in same is opposite ¼, as shown at B, when another set of figures will be revealed, to use on the blade. Proceed for the cuts as above described for the ⅜ pitch. The Key gives the pitch from 1 to a 24-inch rise to the foot run of the common rafter. The lengths of the rafters being given for a one-foot run, it is an easy matter to find the lengths for any run, either in feet or inches, by multiplication, or by measuring it off with the square. Thus, for an 8-foot run, it is 8 times 15 inches, or 10 feet. If there is a fraction of a foot in the run, as is often the case, it may be treated separately, proceeding the same as for feet, but consider the result as inches. Or they may be treated together, as follows:—

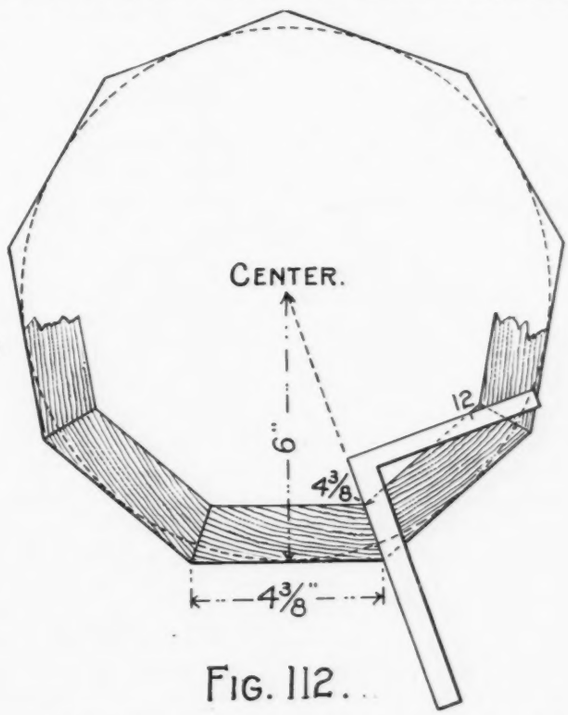


FIG. 112.

Suppose the run to be 8 feet and 7 inches. The 7 inches being 7-12 of a foot, we find that 7-12 on the Key is .58; then 15 times 8.58 equals 128.70 inches, or 10 feet 8 and 17-24 inches. But we fancy we hear some one say: "You are getting it down too fine." Then, have it your own way of measuring from run to rise on the square, using one-inch scale to the foot, but remember, a deviation of 1-12 of an inch will

amount to a whole inch in the length of the rafter. Then, again, in the case of the corresponding hip, the length is not so easily arrived at, while in the decimal method the result is not only more accurate, but applies to the common rafter and hips alike.

We will now describe the other side of the Key. It has a similar disk as that shown for the rafter table side, but this gives the table of tangents. See Fig. 111. The figures in the outer circles represent the degrees, there being forty-five sections in each circle and each one representing a degree. The sum of the figures in opposite sections always equals 90, as 1 and 89; 2 and 88; etc. When one arm of the square is set on the timber for a certain degree, the other arm will give the complement degree of 90. In other words, when the blade is set for 30 degrees, the tongue will give 60 degrees. When the blade is set for 45 degrees, the tongue will give 45 degrees, etc. Now suppose we wish to frame a 5-sided building (pentagon) with a 16-foot inscribed diameter. Divide 180 by 5 and we find the quotient to be 36. Turn the slot till it stands opposite 36, as at C and the figures 8.72 are revealed. These figures represent the tangent and are the length of the side of a pentagon, when the inscribed diameter is one foot. Therefore, for 16 feet it would be 16x8.72 inches, equals 139.52 inches, or 11 feet and 7½ inches will be the length of of the sides. 12 taken on the tongue and 8.72 (8 17-24) (see value of .72 as described before in Fig. 110 and it will be found to be 17-24) on the blade, and the latter will give the miter.

Now, suppose we wish to give the roof ⅜ pitch. The cuts for the common and jack rafters will remain the same as shown in the Key at Fig. 110, except for the side cut of the jack, which will be 8 17-24 on the tongue instead of 12. The length of a diagonal line from 8 17-24 to 12 on the square will represent the corresponding run of the hip to that of a one-foot run of the common rafter. Its length, the line taken on the tongue, and the rise (9) on the blade, will give the seat and plumb cuts of the hip, and the diagonal line from these points on the square will represent the the length of the hip per foot run of the common rafter. Proceed in like manner for any other polygonal-shaped building. To illustrate this point further, we will apply it to the common square building, as follows:—

180 divided by 4 and the quotient is 45. Turn the disk to 45 and 12 will be revealed in the slot. This is the tangent for 45 degrees, and is why 12 is used on the tongue for the side cut of the jack. Suppose the building has nine sides, then the quotient will be 20, and by turning the disk to 20, the tangent is found to be 4.37 (4⅜). These parts are shown in connection with the nine-sided frame, as shown at Fig. 112.

The octagon is not directly illustrated in the Key, because the quotient falls in fractions (22½), but by taking the mean of 22 and 23, it is found to be 4.97 This is within one-hundredth part of an inch of being the correct length.

However, even 5 is near enough for most work, and in fact as near as can be worked to, as far as finding the cuts is concerned. We would go on and on talking about the Key, but time and space forbids. However, we trust enough has been said to give the reader an insight to the wonderful possibilities that may be wrought with it in connection with the common steel square.

Laying Out Arches

SOME HELPFUL POINTERS FOR THOSE OF OUR READERS WHO MAY MEET WITH LITTLE DIFFICULTIES IN THIS CONNECTION

By T. B. Kidner

A RECENT question from a correspondent of this magazine, and the reply thereto by the Editor, suggested to the writer that a brief article on this matter may be of some help to his fellow readers. The question and reply are on page 1325 of the February number, and are quite clear, as far as they go.

While, however, as the Editor states in his reply, the sixth part of a circle is perhaps the most commonly used for small segmental arches, the Editor will pardon my reminder that a segmental arch is not necessarily of that proportion. The word "segment" means a portion or part, and a segmental curve is one whose curve is a part of a circle. In point of fact, any arch struck from one center, and being less than a semicircle, is properly termed segmental.

The object of the writer is, however, not so much to point out this, but to indicate some of the little difficulties that occur in actual practice in setting out such arches.

The commonest use of the segmental arch is, perhaps, as a "relieving" arch over the lintel of an opening for a door or window in a brick wall. In such cases no better proportion can be taken than the one shown on page 1325, namely, one-sixth of a circle. There is, however, an important point of construction involved, and one that the writer has often found to be neglected. The illustration shows two relieving arches, Fig. 1 being laid out in the wrong way and Fig. 2 correctly.

The first is wrong because in the case of fire the wooden lintel would be consumed and the thrust of the arch on the burnt end would be bound to cause a failure and endanger the whole of the wall above. Fig. 2 shows a better way. Instead of making the span of the relieving arch equal to the opening between

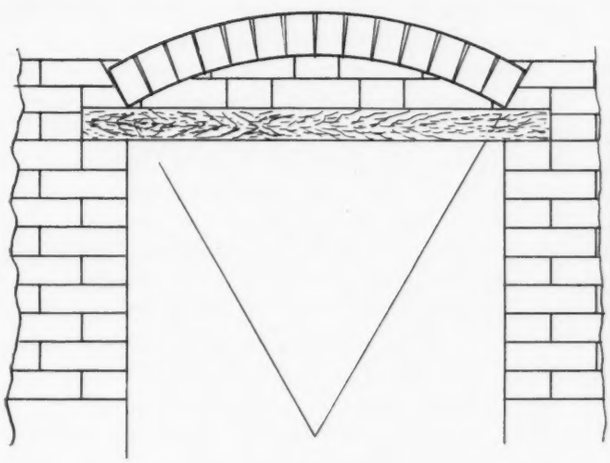


FIG. 1

RELIEVING ARCH

WRONG METHOD

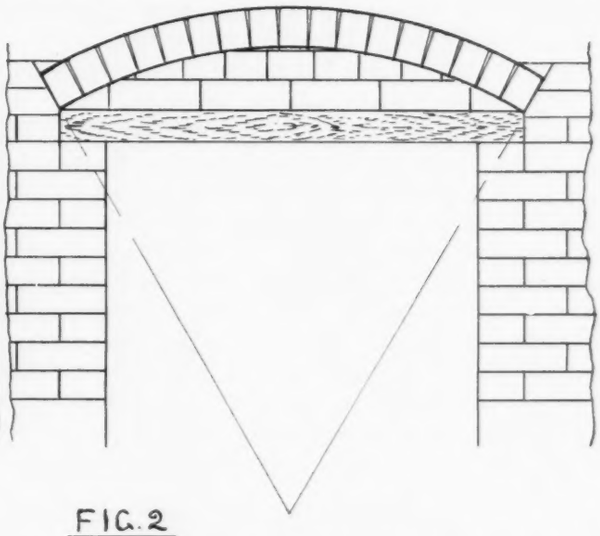


FIG. 2

RELIEVING ARCH

RIGHT METHOD

the jambs below, the arch springs from a point over the extreme end of the wooden lintel. In case of fire occurring and the lintel being entirely consumed, the arch would be unaffected and continue to carry the weight above. Building inspectors and managers should insist on the adoption of this correct method, for it costs no more than the incorrect one and the advantage of it in case of fire is greatly in its favor.

RELIEVING ARCH.

THREE HALF-BRICK RINGS.

FIG. 3

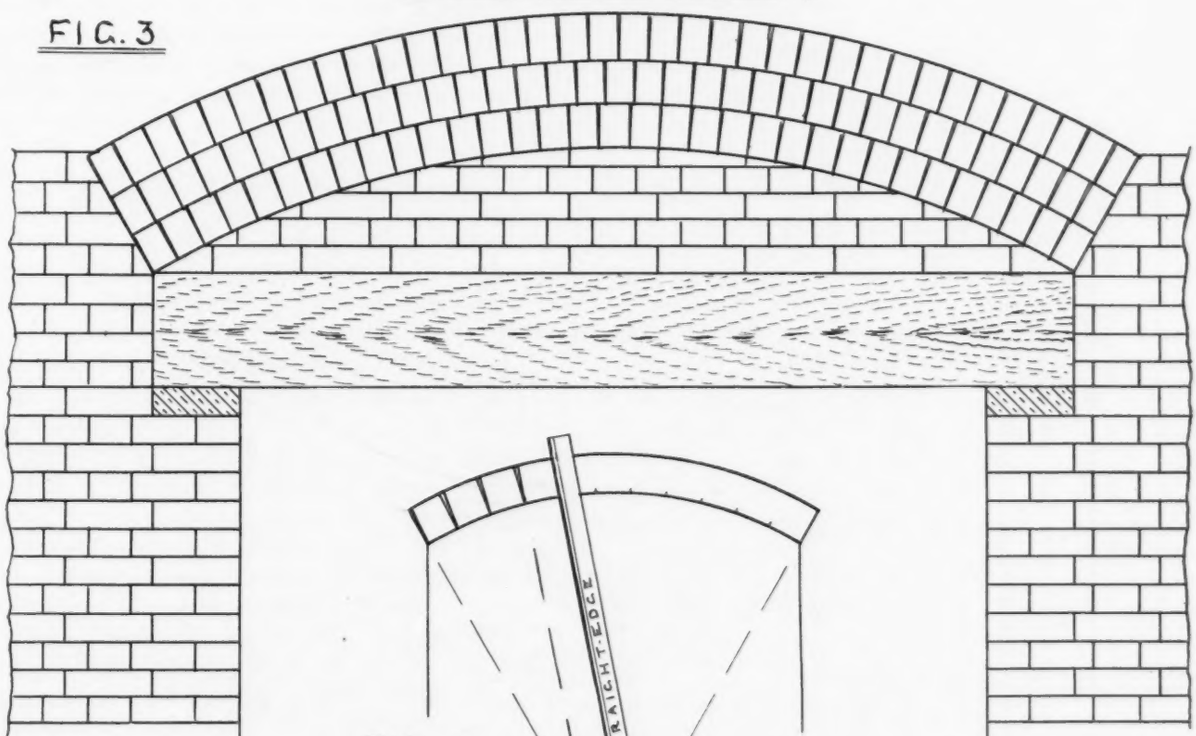


FIG. 4

Of course, for such arches no elaborate centering is necessary. The lintel is laid in position and a piece of 1½-inch stuff is shaped to the curve of the arch and laid upon the lintel to form the centering. The arch is then turned upon this centering, which is removed when the mortar is properly set, the core being then filled in with brickwork.

FIG. 5

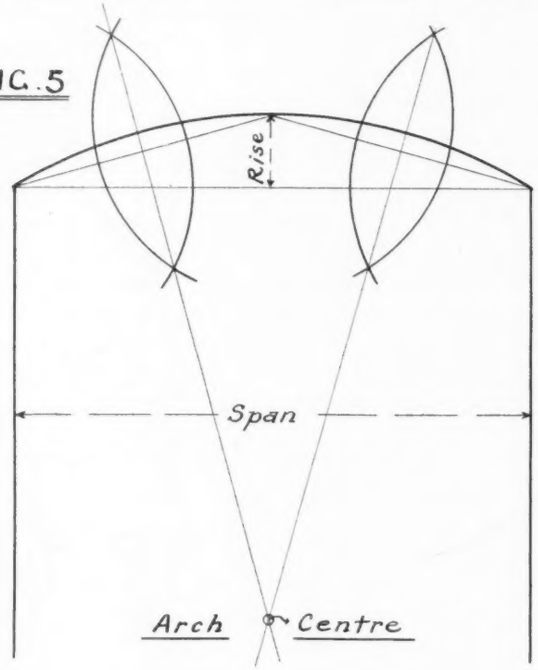
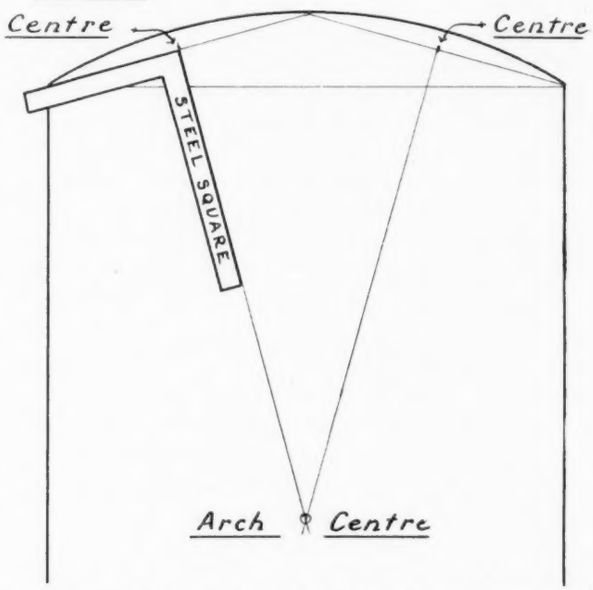


FIG. 6



For openings up to three feet, or thereabouts, a relieving arch of a single ring of half bricks is all that is required, but for larger openings, several rings may be used.

Fig. 3 shows an arch of three rings, and it will be noticed that each arch is separate and not bonded into its fellows. It will also be noticed that the bricks of these rough relieving arches are not cut taper, and thus the joints are slightly more open on the back of the arch than on the under side. In making drawings of such arches, the draftsman draws a ring around the center, from which the arch is struck, the diameter of the ring being the thickness of the brick. This thickness is then stepped off on the under side (soffit) of the arch with a pair of dividers and the straight edge placed against the ring and one of the divisions on the soffit. (See Fig. 4.)

FIG. 7

SEGMENTAL GAUGED ARCH

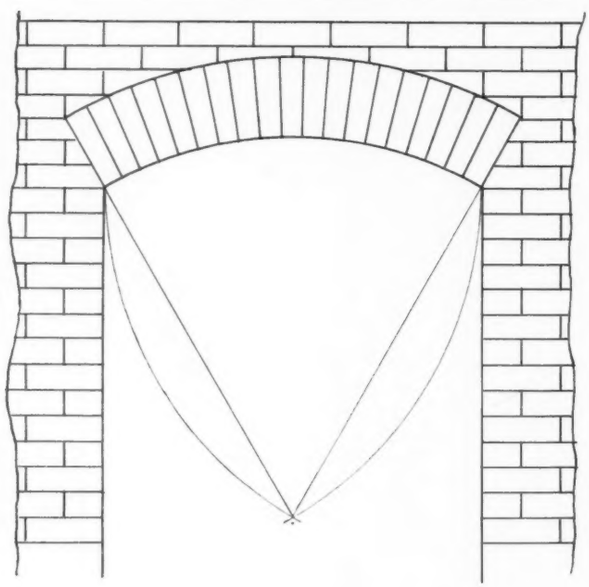
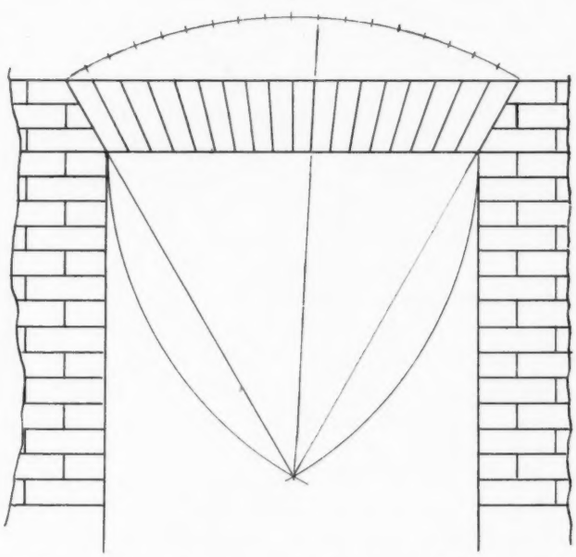


FIG. 8

FLAT GAUGED ARCH



The chief problems, however, with which the practical layer-out of arches is confronted arise in connection with the modern use of fine pressed brick for so many first-class structures. For while the mere curve is sufficient for practical purposes in rough relieving arches, the arch made of facing bricks, and forming a feature of some fine front, must be set out exactly for the purpose of cutting and fitting, or, perhaps, moulding, the bricks of which it is to be composed. Brick arches in which the bricks have been specially cut or moulded are generally termed "gauged" arches, and are frequently used nowadays.

In the course of considerable experience the writer has found that the radius of the arch is scarcely ever given by the architect, the rise being almost invariably denoted instead. The writer has before him an elevation of a brick-fronted building with some eight or ten openings of varying widths, but the same rise is specified for all the arches over them. This means that the layer-out has to find the centers of the several curves from the given particulars of their rise and span. This he does as shown in Figs. 5 and 6; the first being the geometrical method of the drafting room; the second, the practical method of the laying-out shop. In both cases the center from which the arch is struck is found at the intersection of the lines drawn from the center of each half of the arch.

As the bricks in gauged arches are used full length, the thickness of the brick is marked off around the back of the arch and the joints drawn to the center, as in Fig. 7. The joints are very fine, being usually specified to be not more than ⅛ inch, the mortar being either fine cement or lime putty.

In Europe special bricks are made for such arches, and are known as "red rubbers." When new they are quite soft and can be sawed with a handsaw and rubbed upon a block with sand and water to form close joints. After being exposed to the air for a time the surface of these bricks becomes exceedingly hard and impervious to the action of the weather. For the red brick dwellings of "Queen Anne" and "Colonial" style now so much in vogue again, such bricks are exceedingly useful. Not only can they be cut for the characteristic flat arches of these styles, but mouldings can be worked on the angles, and panels formed to relieve broad surfaces of wall. More often, however, bricks for gauged arches are specially moulded to the builder's drawings by the makers of the face bricks, with fairly good results in the finished work.

The flat arch just referred to is also much used in brick fronts in city buildings, and is drawn as shown in Fig. 8. It presents no difficulty to the layer-out, the joints being found by making a curve above the arch and stepping off the thickness of the bricks upon it.

There is one important point to be remembered, though, in building such arches, namely, *that a perfectly straight soffit will always appear to be sagging.* The remedy for this is to allow a trifle—say ½ inch for every three feet of span, which will be sufficient to make the under side of a flat arch look straight. This can be easily done on the job by laying two strips, tapering from nothing at the ends to the required allowance at the middle, upon the support or centering upon which the mason forms his arch.

Of course, flat arches are not very desirable, from a structural standpoint, and should not be used for spans more than four or five feet at the outside. Occasionally, for the sake of uniformity, a flat arch is used over a larger opening, perhaps a broad window or doorway; but in such cases the weight of the superstructure is carried on iron girders, and the brick arch is only a sham or casing towards the street.

✤

Driving Concrete Piling

The first of the big concrete pilings for the Atlanta, Birmingham & Atlantic shore pier were driven at Brunswick, Ga., recently. These pilings are sixteen inches each way and from forty to sixty feet in length, and weigh from five to seven tons each. This work has proved that concrete piles can be successfully driven, and marks a revolution in the building of piers.

The first pile was diven to a depth of twenty-seven feet. The first pier, extending 350 feet into the sand, will require 500 of these concrete pilings. It will be 140 feet in width. Two tracks down the center will bring cars directly to the ship side.

✤

A Foolometer

Some visitors who were being shown over a pauper lunatic asylum inquired of their guide what method was employed to discover when the inmates were sufficiently recovered to leave.

"Well," replied he, "you see, it's this way. We have a big trough of water, and we turns on the tap. We leave it running, and tells 'em to bail out the water with pails until they've emptied the trough."

"How does that prove it?" asked one of the visitors.

"Well," said the guide, "them as ain't idiots turns off the tap."—*Harper's Weekly.*

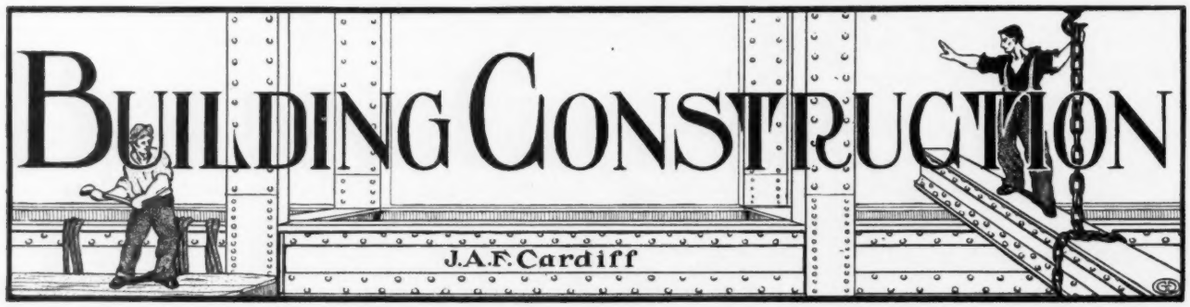
✤

Bad Swap

It is reported that a certain agricultural publisher, by mistake, fed his horse a quantity of poultry food, thinking the same to be a condition powder for animals. The mistake was not discovered until the horse had scratched up half the garden and showed signs of wanting to set. It might be added that the publisher secured the food in exchange for advertising. Moral: Don't exchange your space except for the coin of the realm.—*National Advertiser.*

✤

"Undertake not what you cannot perform."



Constructing Casement Windows

EXAMPLE OF AN ORDINARY SIZED WINDOW USED IN THE BETTER CLASS OF WORK — MULLION WINDOW AND DOOR CONSTRUCTION ALSO SHOWN

A CASEMENT window opening outward in a sixteen-inch brick wall is made the subject of consideration in this installment, and concludes our presentation of outward opening casements. It will be followed by some examples of the inward opening casement, which is a type far more difficult to make rain and wind proof.

The example shown is such as would be used in the better class of work, and the dimensions of the members are about right for an ordinary size window. For larger windows the frame would have to be increased in size, and the sashes made of cherry or other suitable hardwood rather than the dimensions of stiles and rails increased, which would be objectionable in that it would show too much wood. The thickness of sashes, however, should be increased. In any case the dimensions of stiles and rails for casement sashes are greater than for double-hung sashes in windows of similar size, owing to the greater strain on them caused by their being hinged on one side.

The frame shown is built in as the masonry walls are carried up, in a rebate formed in the wall, so that too much of the frame will not be exposed to view, and is secured firmly in place by means of lugs housed into the jamb and built into the brickwork as shown in Fig. 169. All spaces between the frame and the brickwork are calked so as to be wind proof; the calking consisting of oakum well compacted and plastered over, or "scratch-coat" mortar slushed in when the plastering work is being proceeded with. Calking should never be omitted in important work. Frames, after being built in, should be well protected with boarding so as to prevent them from being damaged in passing materials through the openings. Quite frequently when it is desired to absolutely prevent damage to the frames from such causes, the frames are not set until all of the rough structural work of the building is completed. In such cases rough timber bucks are built into the openings as the walls are carried up, and to these bucks the window frames are secured when finally placed in position. The bucks are secured in place by allowing the head and sill bucks to project beyond the jamb bucks four or five inches and building the projecting portions into the masonry. These precautionary measures are taken only with such window openings as are most liable to damage from passing in building materials, and other causes, that is, the windows on the lower floors and those in the street front more than in the rear wall.

The interior treatment of the window opening is, of course, subject to innumerable modifications as the taste of the architect or owner dictates and purse affords. The architrave shown is quite effective and not as costly as the finished effect implies. The trim is moulded and worked out of seven-eighths-inch material, and is blocked at the back to make heavier in appearance. A moulded backband adds to its massiveness and a small flexible wall mould covers the junction with the plaster work and is easily bent to follow the unevenness of the finished plaster.

The exterior of the window consists of brick imposts showing a three-inch reveal, a stone lintel spanning the top of the opening and a stone sill across the bottom. The sill has a bed of five inches, a projection of two inches, a thickness equal to two courses of the face brickwork, and a length sufficient to tail four inches into the masonry at each end. The upper surface has a wash and stools at either end and the projecting portion has a drip cut on under side.

The inside of the wall is furred with one-by-two-inch strips, indicated by "F," to which grounds (G) and lath are applied.

Fig. 168 is a vertical section showing the construction at the head of the window, which has a paneled head lining tongued into the finishing woodwork which is provided to cover the rough frame. At "X," on the top rail of sash, a channel or gutter is provided to catch any rainwater which may beat in between the sash and the head of frame. This channel is continuous across the head and conveys the water to a similar groove on the sash stile.

Fig. 169 is a horizontal section showing the con-

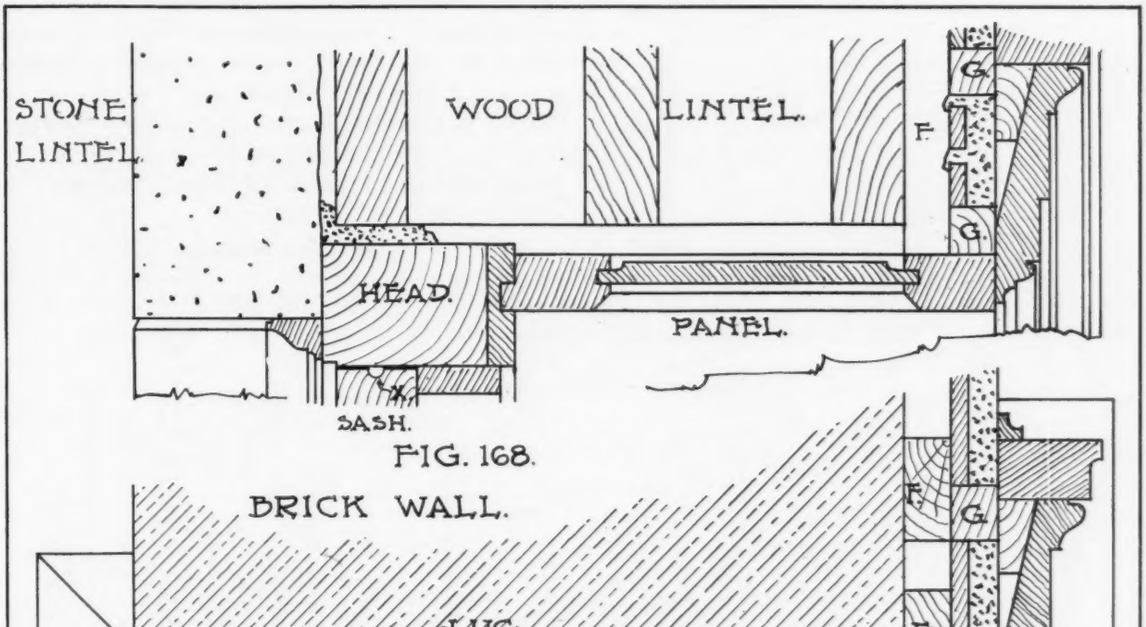


FIG. 168.

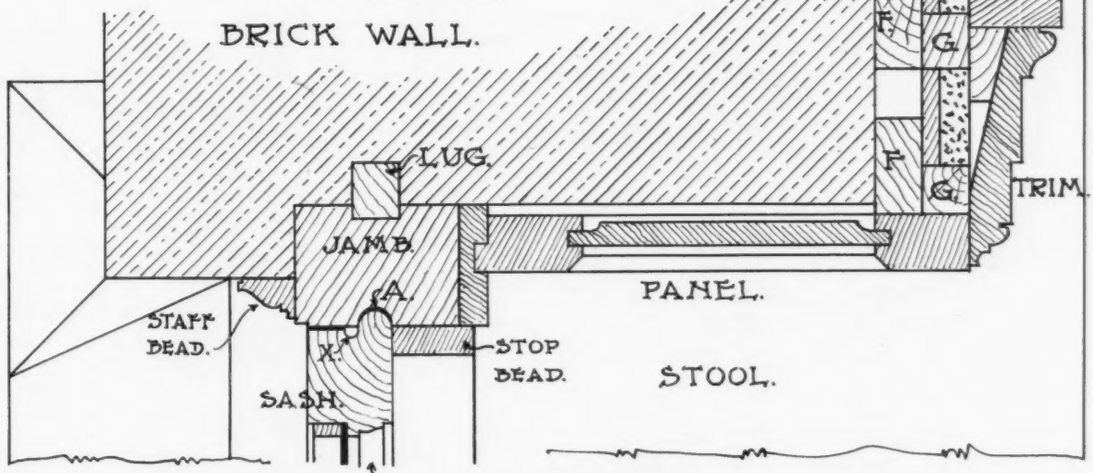


FIG. 169.

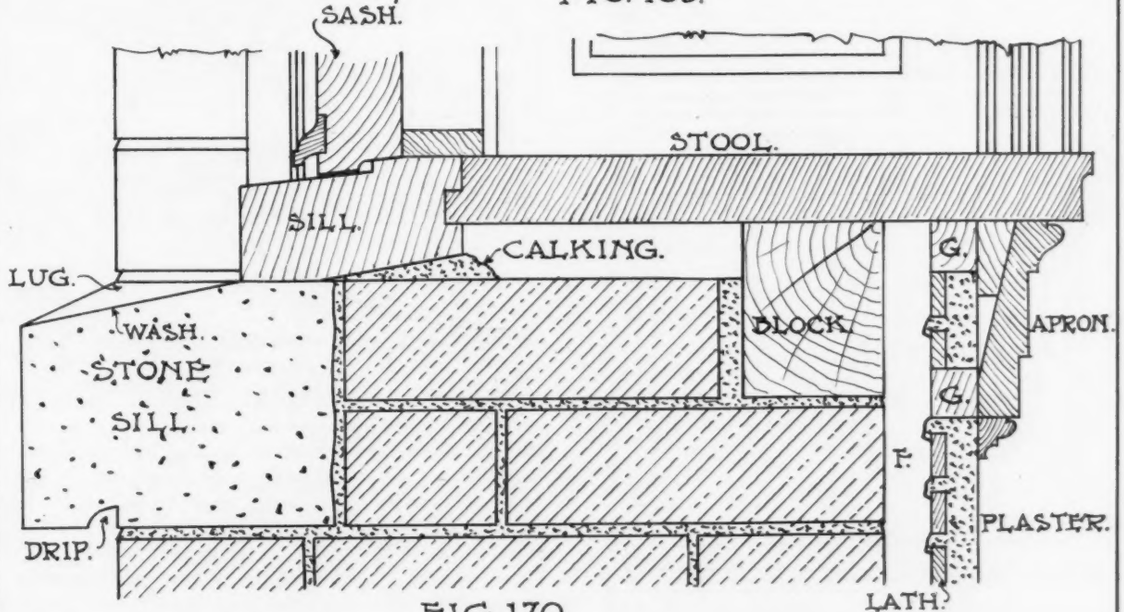
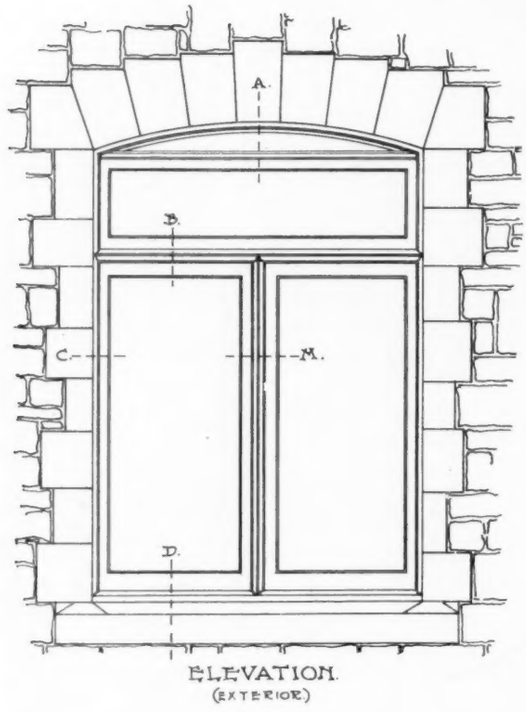


FIG. 170.

PLATE XXXIX.

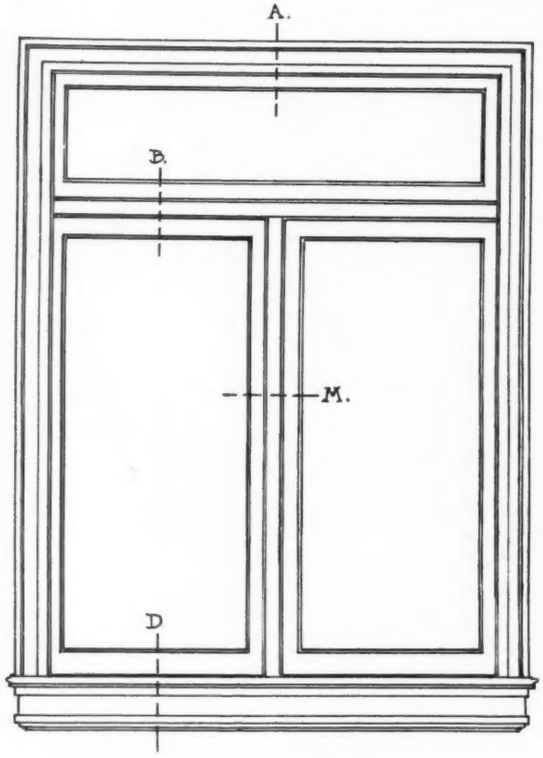
WINDOWS.



ELEVATION.
(EXTERIOR)

struction at the jamb of the window, which has a paneled jamb lining similar to the head. The sash stile has a half-round weather tongue which fits into a similar groove in the jamb of the frame and makes a good weather-tight joint. The crescent-shaped space between the tongue and groove is required for the "play" of sash when opened or closed.

Fig. 170 is a vertical section showing the construction at the sill of the window. The bottom rail of sash has a drip mould cut in, and the inside is finished with a wide stool moulded on edge and tongued into sill. A moulded apron similar to the trim is provided under the stool and the joint of the stool and sill is covered with the stop bead.

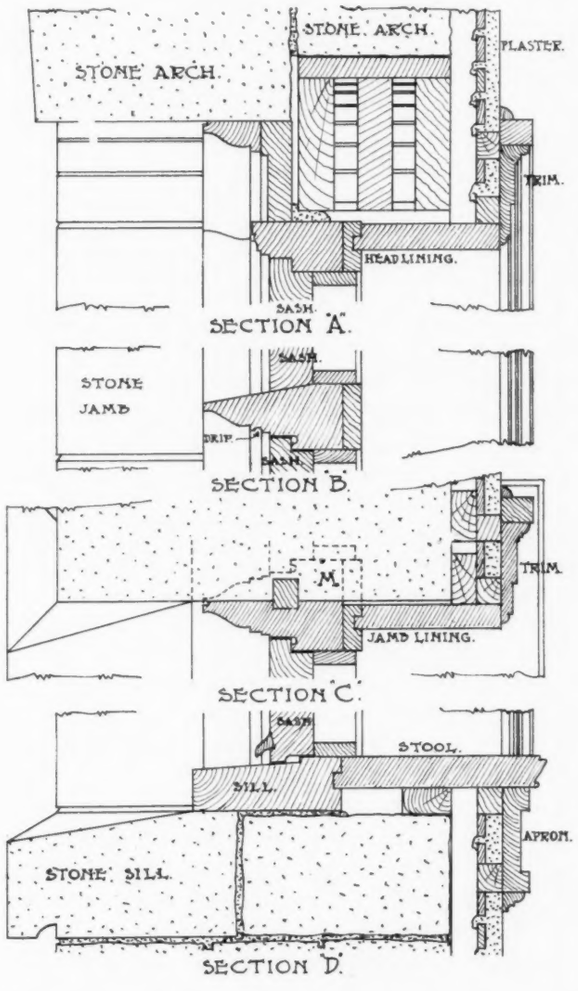


ELEVATION.
(INTERIOR.)

Mullion Window

To the Editor: Toronto, Ont., Can.

Would you please give a sketch or I should prefer a plate in your paper of a mullion window, showing plan, exterior

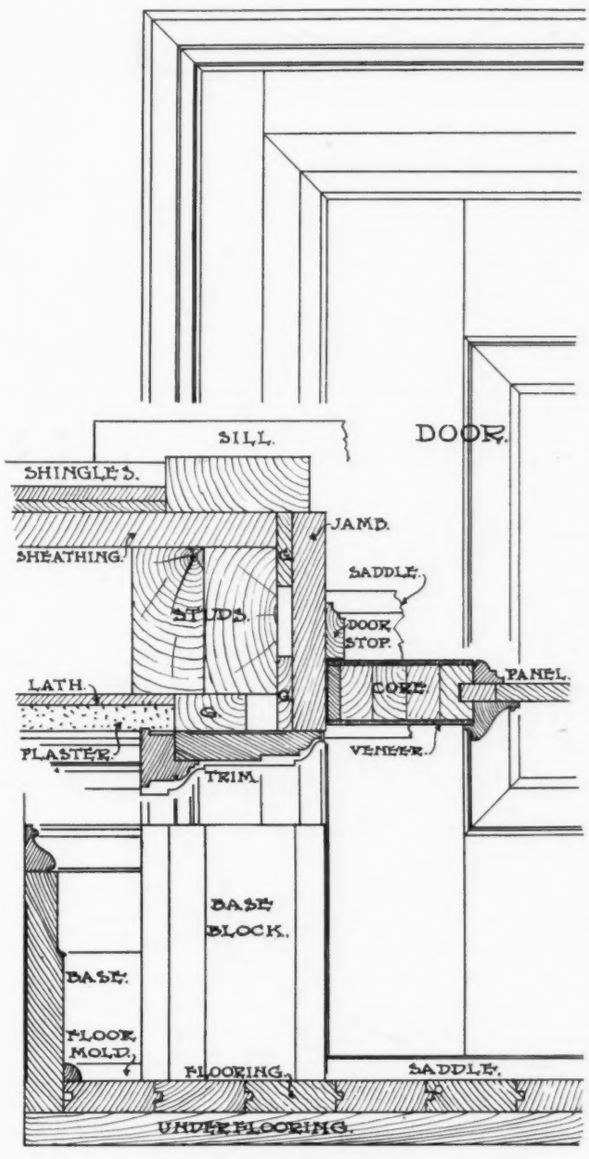


elevation, interior elevation and vertical section, drawn to a scale of three-fourths-inch to one foot, with a stone wall, and window heads being segmental in form on the exterior, while the interior soffit to be finished horizontal. Also a plate of a door for a frame house, "rear veranda entrance door." Would like to see these in your valuable paper as I have studied with interest the recent window plates and gained much knowledge from same. I. I. H.

Answer: We present herewith elevations and details of a mullion casement window, with sashes opening outward and a stationary transom. The window is in a stone wall laid up with random-coursed

roughly-squared ashlar, with dressed stone jambs, sill and segmental arch. The head of the window on the inside is flat. The letters on the two elevations indicate the points at which the various detail sections are taken.

The detail sections show the construction sufficiently well to obviate the necessity of any further description. In most respects the construction is similar to



the casements illustrated in the last few numbers of the AMERICAN CARPENTER & BUILDER.

The section through the mullion at "M" in the elevations is indicated by the dotted lines at "M" in detail section "C."

Exterior Door

The illustration herewith shows the construction of an exterior door and frame in a frame house. The studs are doubled about the opening and grounds (G) are set on same for the trim and the door jamb and head. The jamb is of seven-eighths-inch stuff with a moulded stop planted on. Another way of constructing the jamb is to get it out of one-and-one-eighth-inch stuff and rebate it for the door, thus doing away with the applied stop.

The door is veneered on both sides one-eighth inch thick, and on edges five-eighths inch thick, on a core of white pine strips glued together with the grains reversed. The core is frequently tongued and grooved together. Thicker edge veneer is required so as to permit of planing down the edges without exposing the core. In the better class of work the face and edge veneers are mitred at the angles so as to conceal the end grain of the face veneer.

Panels should be set loose so that expansion and contraction will not split them. The mouldings are nailed to the stiles and rails and a pine fillet is set in between them.

The trim is worked out of seven-eighths-inch material and has a moulded back band. The little tongue left on back edge of back band may be planed to fit the unevenness of the plaster.

✤

Boy Got the Raise

A year ago a manufacturer hired a boy. For months there was nothing noticeable about him except that he never took his eyes off the machine he was running. A few weeks ago the manufacturer looked up from his work to see the boy standing beside his desk.

"What do you want?" he asked.

"Want my pay raised."

"What are you getting?"

"Three dollars a week."

"Well, how much do you think you are worth?"

"Four dollars."

"You think so, do you?"

"Yes, sir, an' I've been thinking so fer three weeks, but I've been so blamed busy I haven't had time to speak to you about it."

✤

She—That Mr. Planz, the architect, has a funny way of pronouncing things, hasn't he?

He—I haven't noticed it.

She—Why, yes. Didn't you hear him allude to a sore throat?

He—A sore throat?

She—Yes. I heard him mention a gargoyle several times. We always call it gargle, you know.—*Cleveland Plain Dealer.*

✤

I enjoy your magazine very much and always look forward to its arrival, and think it should be in the hands of every mechanic.

F. W. MOORE, Harvard, Ill.

PRACTICAL CARPENTRY

Geometrical Handrailing

BEING THE ANSWER TO A SPECIFIC QUESTION ON BUILDING A CURVED RAIL FOR A STAIR — DRAWINGS SHOW COMPLETE WORKING PLAN

By Morris Williams

AS THIS question is one which is met with by many readers we have thought it best to go into the subject thoroughly. We have drawn the two accompanying diagrams to help Mr. Malette out of his difficulty.

To the Editor: Newark, N. J.

I have a curved rail to build for a stair of this plan with a rise of 7 inches and run 10½ inches and 8⅛ inches between centers of rail on the two flights. I laid the pitch line out and then eased it a little like this to give me the horizontal cut for the band saw after the vertical cut was made with the block held on the pitch of the stairs. The horizontal cut I made by "rocking" the block on the vertical outside cut as I saw the top and bottom lines of the rail always keeping a square section at every point.

This may not be very scientific but it seems to give a proper rail after it is worked out. Perhaps you can give me the right rule for this problem as I understand geometry pretty well. W. J. MALETTE.

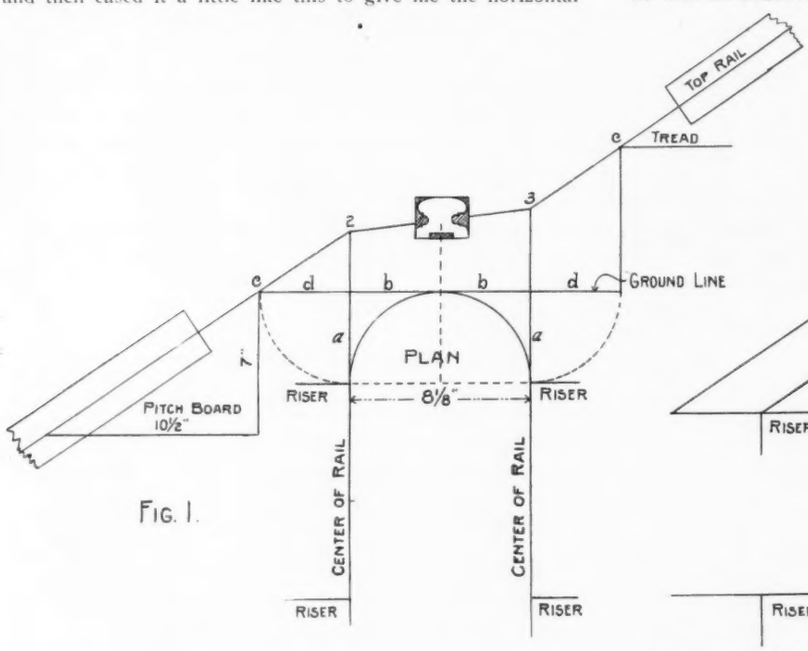


FIG. 1.

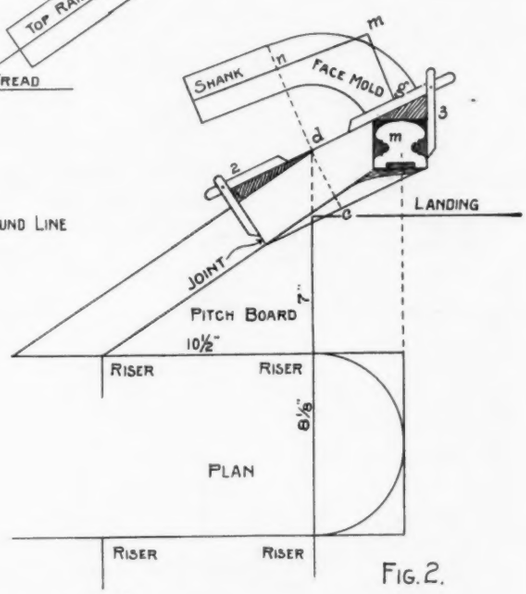


FIG. 2.

Fig. I contains the plan and elevations of the example he has furnished.

The conditions as laid down by him are that the tread be 10½ inches, the riser 7 inches and the diameter of the cylinder 8⅛ inches, or in other words, 8⅛ inches between the center of rails of the two flights adjoining the cylinder.

Mr. Malette wants to know the meaning of the terms "tangents," "ground line" and "bevel." In Fig. I the plan tangents are shown at *a-b—b-a*. They are called tangents because they are lines touching a curve: *a* and *a* we will call the side tangents and *b* and *b* the crown tangents.

It will be observed that we have four plan tangents, two for each quadrant, and that each one is necessary to square the joints, which is the use that is made of tangents in handrail construction.

The line we call *"ground line"* is the intersecting line between the plan and the elevation and in Fig. I the plan tangents *b* and *b* are shown to be contained in the ground line.

The lines *d* and *d* are the side tangents, having been revolved to the ground line, as shown by the dotted arc.

The ground line as now shown contains the *4* plan tangents in one continuous straight line.

Over and above each is shown the pitch. Over *d* and *d* it will be observed that the pitch is determined by the pitch of the flights adjoining the cylinder and over the crown tangents *b* and *b* the pitch is determined by joining the pitch of the side tangent *d* and *d* as shown from *2* to *3*.

Now what Mr. Malette and others are to understand is that the plan tangents by this process have been projected first to the *"ground line"* and second to the pitch line.

The pitch line of tangents as shown in Fig I is from *c* to *2*, from *2* to *3*, and from *3* to *c*.

Thus it is shown that almost all the lines we have in this diagram are the tangents in different positions and before a wreath can be worked it is absolutely necessary that a knowledge of how to project the tangents under all conditions be acquired.

About the *"bevel"* we may say that it is that by which the wreath is twisted.

In all square cut systems of handrailing the material for the wreath is cut out of the plank square to the surface; then the bevels are applied to the ends; and the wreath is worked to them where they will give the twist required that will makes the sides of the wreath when in position vertical all along over the cylinder.

In Fig. 2 is shown the simplest way to work a wreath for the example given by Mr. Malette.

The plan is the same as in Fig. I.

The lines from the springing and the crown of the cylinder are drawn as shown to *d* and *g*.

The pitch board is placed as shown and the landing line is determined.

Above the landing point *m* is to be equal to *m* as shown from *b* in Fig. I and a section of the rail is drawn; then a line from the bottom corners of one section is drawn to the joint through *c* and a parallel line to it is drawn through *g-d*.

The distance shown from *c* to *d* is the thickness of the material required for the wreath.

Now from *d* draw the line *d n* square to *d g;* and also from *g* draw the line *g m;* connect *n m*.

On each side of *n* place one half the width of the rail and form the shank as shown.

The curve of the mold may be drawn with a compass; because the axis of the ellipses that forms them are very near being equal.

The joint of the mold at *g* is made square to the line *m-g* and at the shank to the line *m-n*.

Bevel *3* is shown applied to the side of wreath and bevel *2* to the joint. The shaded portions indicate the slab wood that is to be chopped off in squaring the wreath.

This method of construction may be applied to any size of a well hole.

In the example under consideration the well hole is 8⅛ inches; if it was 18 inches the method here shown would apply.

The Home — Past and Present

A REMINISCENCE OF THE PIONEER'S HOME AMID TRIALS AND TRIBULATIONS — HAPPINESS IN ADVERSITY COMPARED WITH LATER YEARS IN PROSPERITY

By A. W. Woods

WHILE we are showing in this issue of the AMERICAN CARPENTER & BUILDER a number of up-to-date cottages, we thought it might be well to take a look backward over the road our fathers struggled for the necessities of life, thus making it possible for their descendants to enjoy the ideal homes, such as we have been showing from month to month in this magazine. But the thought comes back, after all, do we really enjoy life better than they, in their rough-hewn log houses, with the interstices filled in with wedge-shaped blocks of wood, and plastered over with mud to keep out the cold? They forged ahead of civilization, leaving friends and loved ones behind, pressing further and further into the wilderness, clearing out the forests and building a shack that they might call home. No railroads were there to carry them, within a few hours time, back to that dear old home in some far distant state. No telegraph lines within a few minutes time to convey greetings, or sad news, back to the dear old parents far away. No telephone bell to ring the summons to listen to the voice of one—Oh! so dear—so near and yet so far. Lastly, the staff of life was not to be had by simply going to a near-by store, but often meant days, and sometimes weeks, to get it. A family separation in those days often meant forever, and, in many cases, lost to each other. Such was their lot in laying the



foundation for their followers. Let us pause a moment. Are they getting the credit that is due them for their services rendered in developing this, the foremost country of the world? In later years public im-

provements sought them and came to them after business, which, in a measure, lightened their burdens and brightened the way to move on. So we see their children, not content to settle down, take up the trail and forge on with the march of civilization, out of the wilderness into the broad and fertile prairies. By this time the railroads and other public improvements have taken the lead, but there were no logs with which to build the home, and as a last resort the sod of mother earth was ripped up in strips to build the shelter, called home. To-day, as we look over this western country, we see a great change has taken place. The sod houses that dotted this country twenty-five and thirty years ago have all but given way to the up-to-date modern home, but here and there a few of these primitive houses are still standing, mostly unoccupied.

A few years ago it was our privilege to talk with one of these western pioneers. There he was seemingly surrounded with all of the modern conveniences to make life comfortable in his declining years, but when reference was made to the little sod house that still stood near by, he said: "Yes, that house sheltered wife and me for a number of years. We worked hard to pay for the land and improve it. In that house our children were born, and I'll never tear it down. We planned for the future and our happiest days were spent in that house." He was a man far past middle age, with abundance of this world's goods to round out life's journey in peace and comfort; yet he looked back to the strenuous days of toil, under the scorching summer's sun and the bleak cold winds of winter for his happiest days.

We passed on, and a few hours more found us in the land of poor Lo. He, too, like his white brethren, had caught the spirit of improvement and had built him a house; but near by stood his tepee, which could



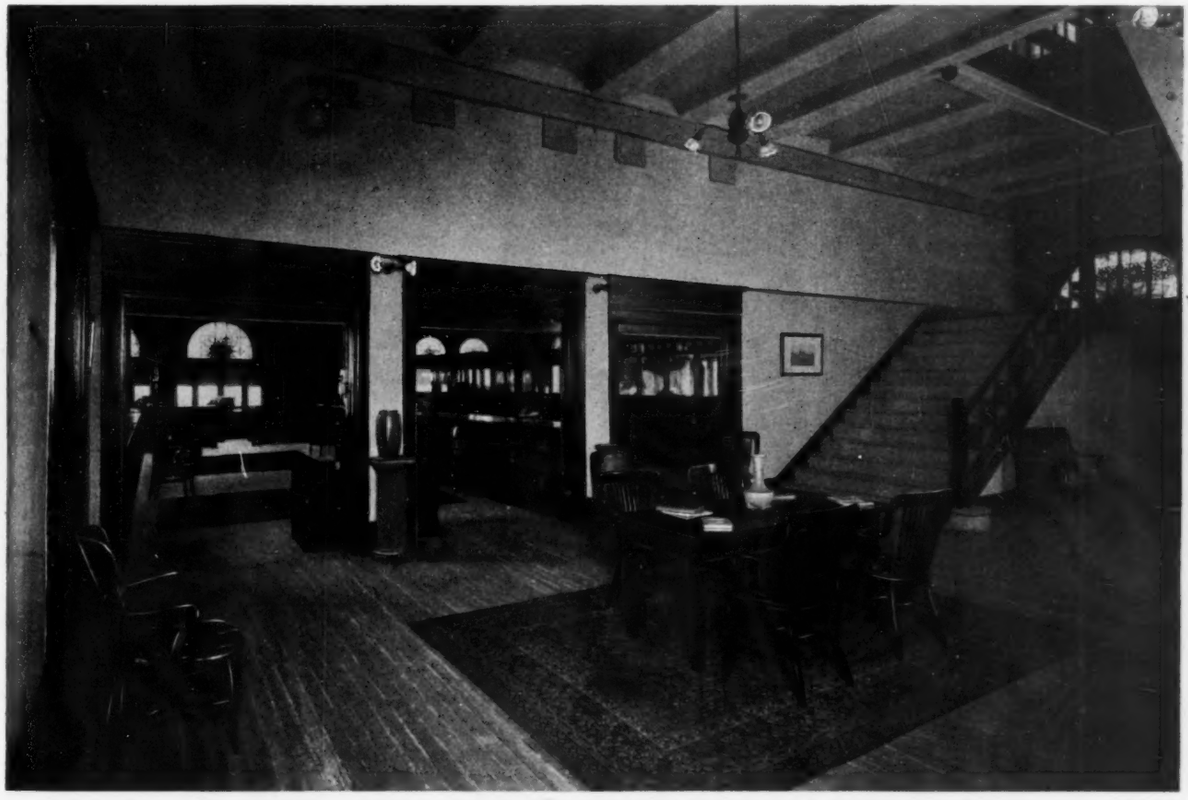
be for no other reason than that he and his found in it more comfort than in his wooden house. Then, as we passed on, the question arose: Where does true



happiness dwell, anyway? In the accumulation of, or in the possession of wealth? In the humble cottage, or in the palatial residence—which?

Our New Offices

WE promised to tell you all about our new offices in this number, and in order that you might better understand our description, we have had several nice pictures taken, illustrating the various departments. The pictures themselves tell an eloquent story of the success of the AMERICAN CARPENTER AND BUILDER, but we want to describe more fully the workings of each department.



1. Main Entrance Hall

Just two years ago this month the first number of our magazine was published, and a couple of months later we printed pictures of the offices we then occupied. At that time these seemed unusually large, and so they were when compared with the usual quarters of trade papers. But the AMERICAN CARPENTER AND BUILDER is an unusual trade paper and requires much more space than the ordinary journal. Most of our readers will remember the illustrations we published last year, and will probably be greatly surprised at our great growth and the space now occupied by "The World's Greatest Building Paper."

We moved into our new home about January 1, and it can readily be imagined what an immense task it was to get every department settled, arranged to the best advantage, and all details adjusted so as not to interfere with the handling of the enormous daily mail and routine business details. So well was everything planned that the change was made without interfering in any way with the publication of the magazine, or delaying the acknowledgment of a single letter.

Two entire floors of one of Chicago's largest

and most modern office buildings are occupied by the various departments, the executive offices being grouped together in a floor space of 11,000 square feet. It is of these offices principally that photographs are shown. We wish we could describe the rich beauty of these departments so that our great family of subscribers could see not only the details of space and arrangement, as shown by the photographs, but also the quality and coloring of the decorations and furnishings.

mahogany counters, partitions and furniture. The coloring of our cover this month is in exact harmony with all the furniture and fittings of our office.

The entrance halls and reception hall are all spacious, and in fact every department, while being filled with busy workers, has still plenty of room, and none of them is in any sense crowded. Extending around two sides of this immense floor, on the outside of the building, are long balconies, from which



2. Panoramic View of

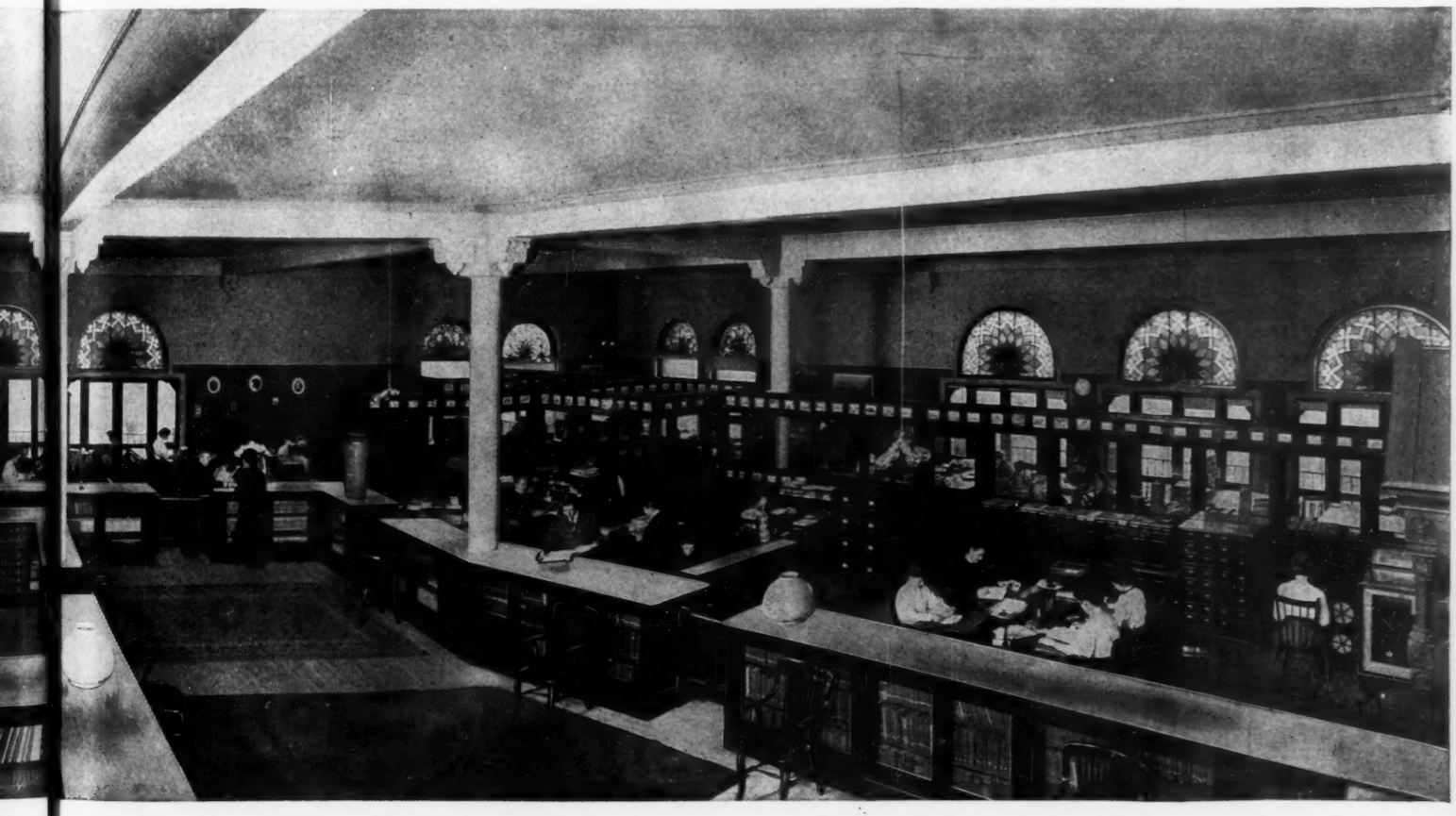
The ceilings, which are fifteen feet high, are finished in two shades of ecru, or dark cream, this coloring being also used on the massive beams and extending down the heavy pillars. The Moorish decorations, which will be noticed in the photographs, add a richness to the entire effect which it is difficult to describe. Below the picture rail, which is about midway between the floor and ceiling, the walls are calcimined a dark green, while the woodwork is finished mahogany. These decorations and colorings all harmonize nicely with the rich

an extensive view may be had of the busiest part of one of the world's greatest and biggest cities.

The first picture shows the main entrance hall, looking into the executive offices described above. This is the view which greets the eye of the visitor as he steps off the elevator, but gives little idea of the immensity of the room beyond. In the background is shown the private stairway, leading to the floor above. In these illustrations we have not attempted to give views of the rooms on

this upper floor, as space will not permit the showing of all departments. On this floor are our immense stock rooms, containing thousands and thousands of packages of envelopes, stationery and various blank forms. It would require at least four large photographs to give an adequate idea of this one department. Here also are the cloak rooms and toilet rooms, with all modern fittings and conveniences.

The most comprehensive idea of our executive offices is gained from the second picture. We would like to have shown a much larger photograph of this, but could not go beyond the limits of the magazine. This picture is really a remarkable photographic feat, and in order to get this comprehensive view many difficulties were overcome which a few years ago would have been thought impossible. It required three large plates, each eleven by fourteen inches, to cover the whole scope, yet the joining is so neatly done that none but an expert could tell where one plate ends and another begins. If this picture were of the same size in proportion with the others, it would be just three feet long and nearly twelve inches high. It was taken from the balcony shown in the right background in picture No. 3. This is undoubtedly the best position from which to get a view of our entire business office, and it is certainly an inspiring sight to glance over so many busy departments, the only sounds to be heard being those of the click of dozens of typewriters, mingled with the voices of the managers of the various departments dictating letters to expert stenographers.



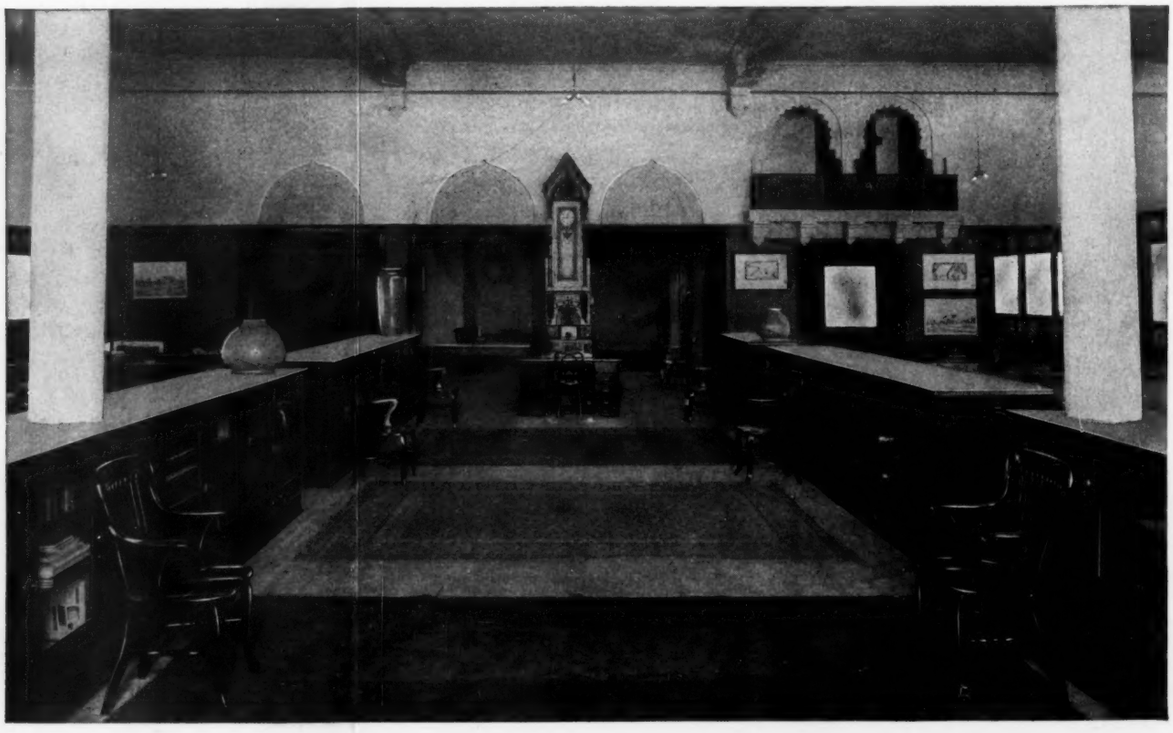
of **Executive Offices**

At the extreme left of this illustration is seen one little corner of the drafting room—it was impossible to reach far enough to the left with the camera to get a complete view. In the far background at the left, completely hid by the long partition, are the directors' room and the private offices of the president and vice-president. Glancing from left to right, starting in the far corner, are the book

department, stenographic room, and the advertising and subscription departments. At the extreme right, and extending the full width of the room, is the large mailing department. Only a slight glimpse is had of this through the glass partition. However, a complete view of this room, as well as of all the other departments mentioned, is given in the other pictures.

Picture No. 3 shows the Reception Hall, just inside the doors shown in picture No. 1, looking toward the Entrance Hall. In the background may be seen the private telephone switchboard, connecting all departments. An expert telephone operator is always on duty here and sufficient trunk wires are in use to insure anyone calling the office on the telephone from the outside getting the person he wishes to talk with, without interfering with other conversations between parties inside and outside the office. At this desk is also the "Information Bureau," where a young lady courteously directs callers to where they will find the person they wish to see, and is ready to answer any questions regarding the various divisions of our establishment. It is here, too, that information may be secured by strangers in the city, who may wish to know where to find a certain company or to reach a certain address. Whenever our subscribers call they are gladly directed where to make the best purchases in any line, what car lines to take to reach any desired location, how to reach the various parks and all points of interest and places of amusement, and, in short, any information which a stranger in a big city like Chicago might desire. We are always glad to have our readers and subscribers ask questions.

The view in picture No. 4 is taken from a point in the Reception Hall about where the gentleman is standing in the panoramic illustration, looking to the left toward the Directors' Room and the editor-in-chief's private office. This is known as our Electrotype Filing Corridor. In cases made expressly for the purpose, and stored underneath the counters on either side, are thousands of electrotypes used in illustrating the AMERICAN CARPENTER AND BUILDER, and room for thousands more. Every illustration, whether it be a line drawing or a fine half tone photograph, is carefully indexed and placed in one of these cases. It is but the work of a minute to locate any

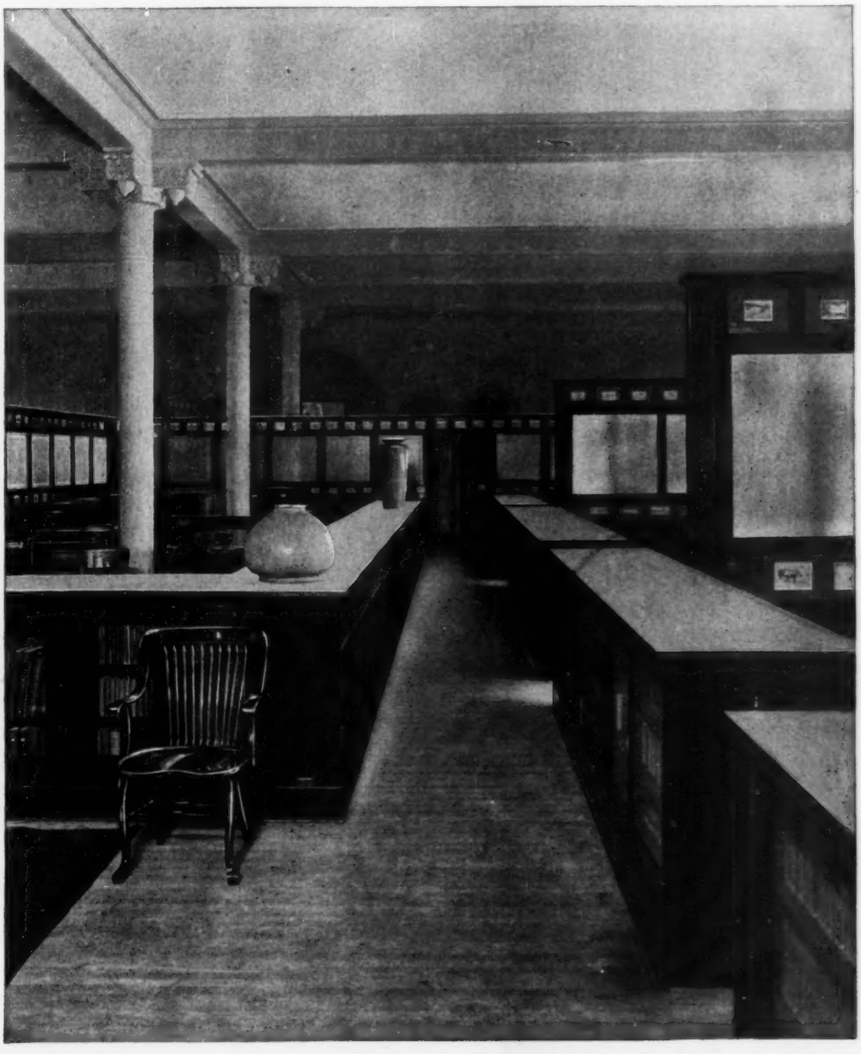


3. Reception Hall

illustration which ever appeared in the magazine, no matter how far back the date of issue may be.

Picture No. 5 gives a slight idea of the amount of work handled in our subscription department. In the background a glimpse is had of the private offices of the editor and manager, while the other employes are all busy opening subscription mail, crediting subscription payments and correcting addresses where our subscribers change their place of residence. At the right may be seen the files of names and addresses of subscribers. There are six of these cases, one of which is open. Each case contains 5,000 addresses. These cases are in constant use, as each day's mail is carefully attended to before the close of business. Every subscription must be credited, every address corrected, and every letter given the necessary attention the day it is received, as the following day will bring its own responsibilities, and nothing must be left over from the previous day to interfere with proper care and attention being given every letter. The subscription files referred to may be also seen at the right in picture No. 2. Right next to this file is a duplicate list, where each subscriber's name, address and the full details of his subscription are kept on a separate card. These cards are all filed by states and towns, and we have yet to find a visitor at our office who could name a town in the United States where we could not show that we had one or more subscribers.

In the sixth picture is shown a portion of our Stenographic Room. It is here that the hundreds of letters which must be written every day are typewritten from the stenographers' notes. The subscriber will be impressed with the fact that we always have sufficient employes to take care of his interests carefully and promptly. His letters are given immediate attention and a personal reply dictated to a stenographer by the editor or manager who is most familiar with the question which he asks. Through the windows in this picture may be seen a portion of the railing to the balcony previously referred to, and beyond a dim suggestion of the far-reaching view over the roofs and busy thoroughfares of Chicago.



4. Electrotype Filing Corridor

The picture of the Mailing Room, No. 7,

gives but a suggestion of this busy department. A person must visit this room himself to realize how rapidly and systematically a large amount of work may be done. The girls here are all busy addressing envelopes, folding and inserting letters, circulars and magazines. Each has her own work to do and is skilled in her particular line. There is practically no conversation, but everything is

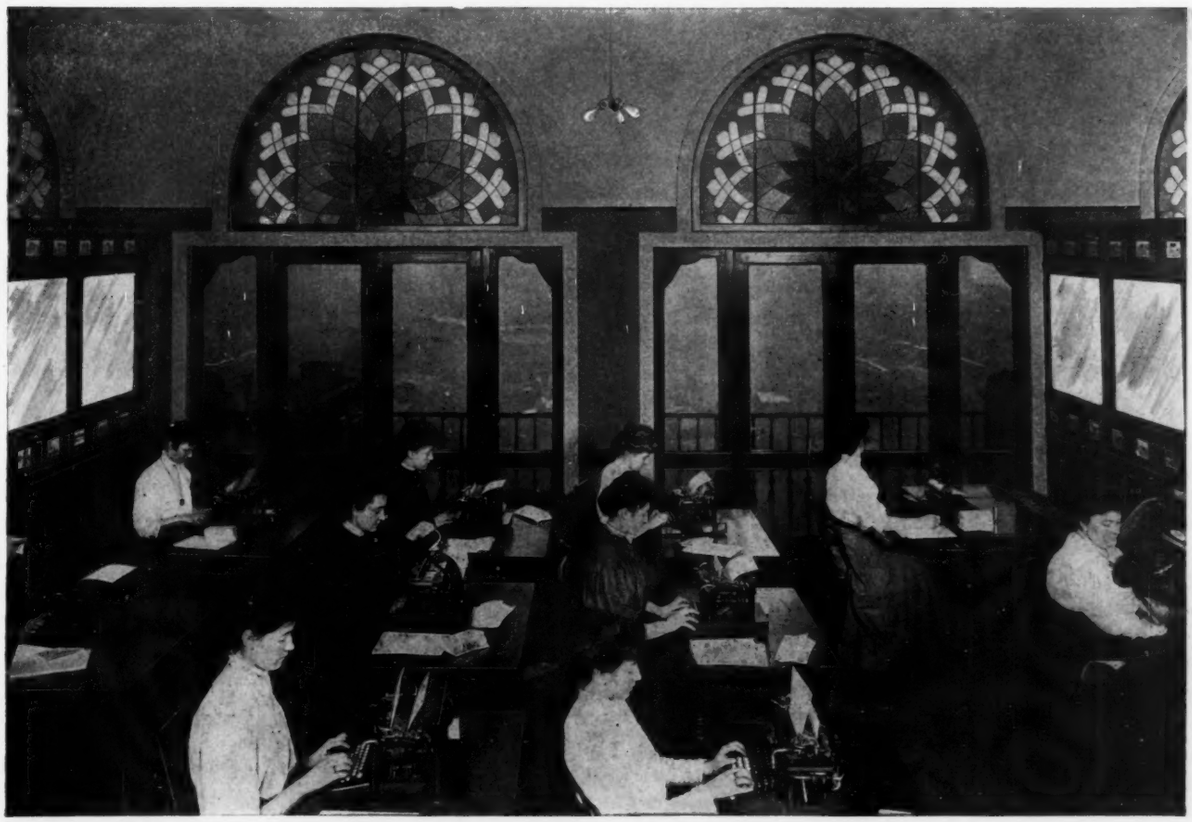


5. Subscription Department

neat, systematic and orderly. At the desk is the superintendent, talking to an applicant for a position. In the foreground are only a few hundred copies of the March magazine, but from this may be gained a little idea of the space occupied by our entire edition of 30,000.

Photograph No. 8 shows how we handle our orders for books. This department is kept entirely separate, so that all orders are turned over to a special set of clerks who see that each order is filled correctly and in the quickest possible time. At the right may be seen Mr. Radford, the president of our company and editor-in-chief of the magazine, in consultation with Mr. Ashby, who is in charge of our drafting room, over the request of a subscriber for information on some unusual point. As soon as a decision is reached the messenger will be dispatched to carry out the instructions so that the subscriber's request may be attended to without delay. Our Book Department makes a specialty of handling books of particular interest or value to the trade, but it is in a position to secure any book, not out of print. A large stock of books is carried on all building subjects, so that orders for these are usually filled the same day they are received.

A good representation of our Drafting Room is shown in picture No. 9. The draftsmen at the right are facing the north, and the room is flooded with the north light, from four large windows. All architects will appreciate the



6. Stenographic Room

fact that a north light is ideal for their purposes. There is no trouble from the varying lights and shadows of the sun, and the glare of sunlight is superseded by an even, soft light, which varies but little from the beginning to the end of the day. It is in this room



7 Mailing Room



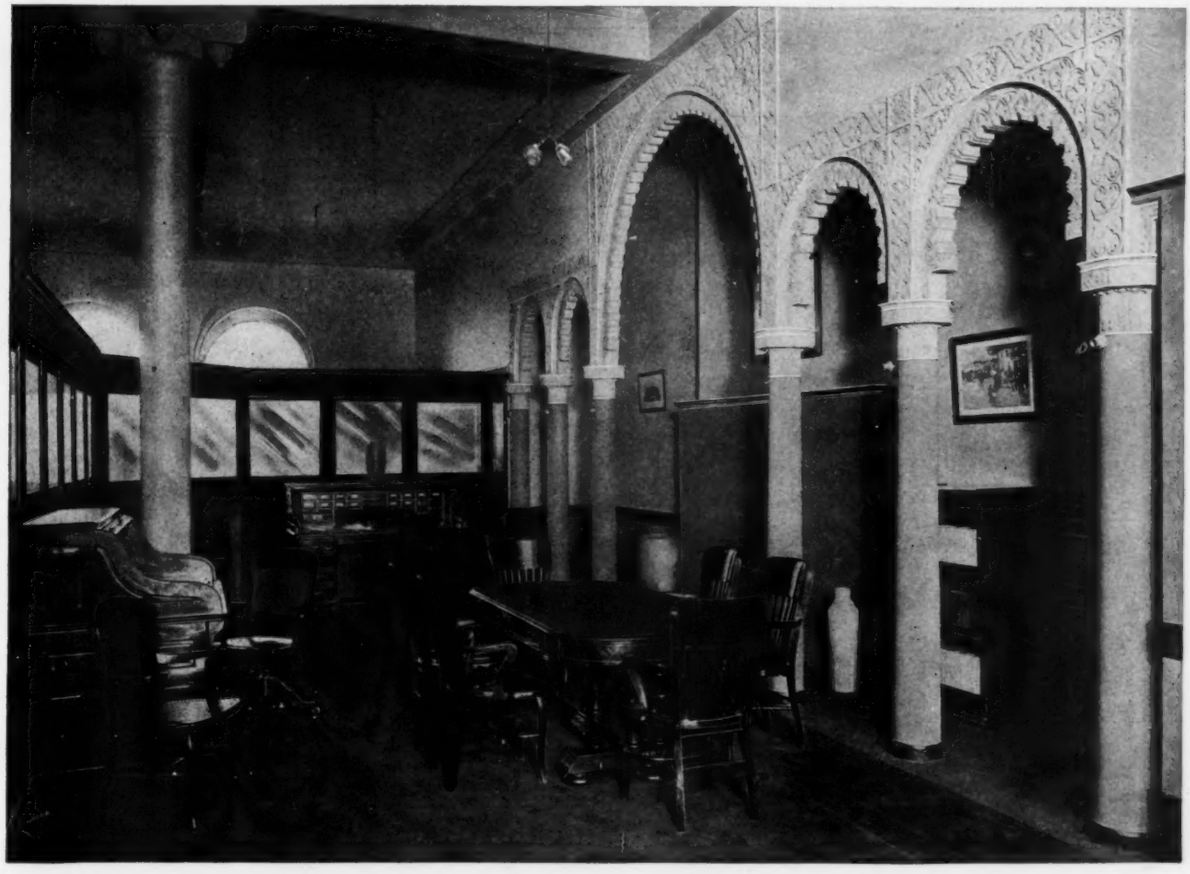
8 Book Department



9. Drafting Room

that all the line drawings appearing in the magazine are prepared. We have many times been complimented on the excellent and even quality of our illustrations. This can only be accomplished by employing none but expert workmen, giving them the best of materials, and have them work under the most favorable conditions.

Picture No. 10 gives a view of the Directors' Room, a portion of our executive department which we were unable to get in the large



10. Directors' Room

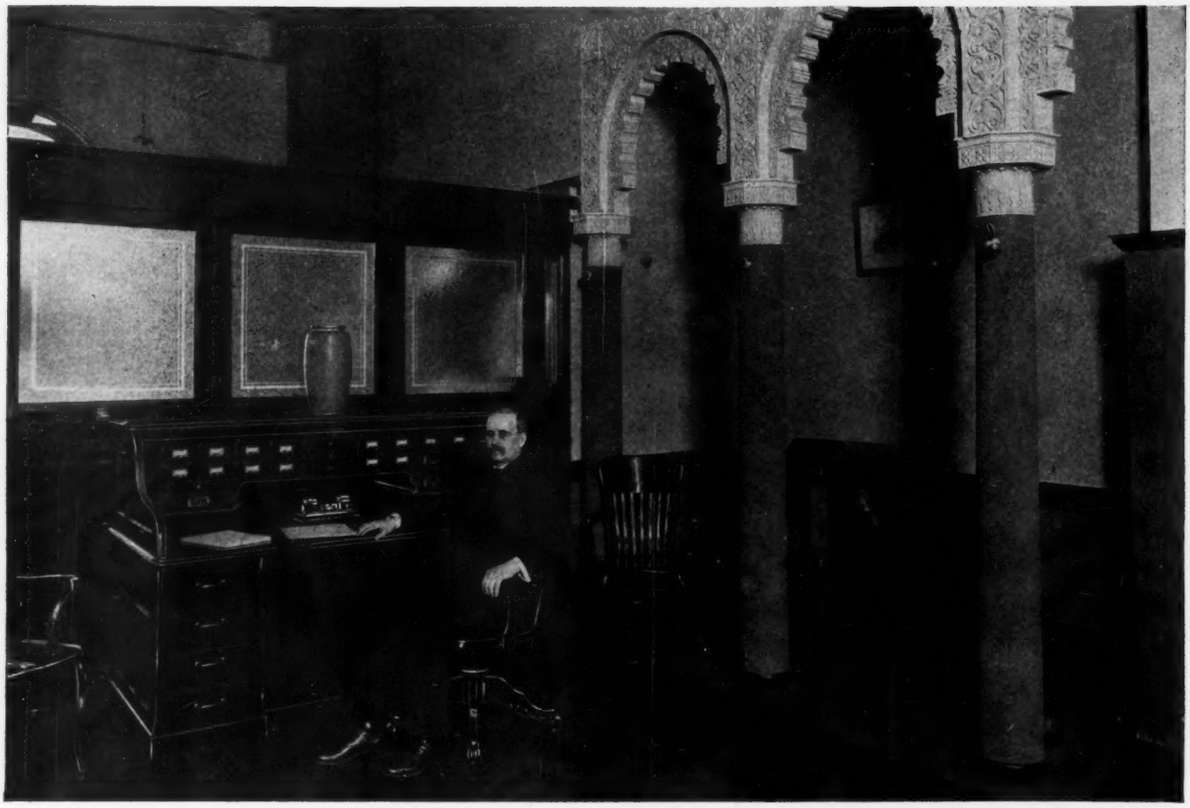
panoramic photograph. This is one of the beauty spots of the office, and the Moorish decorations at the right add a touch of architectural effect which is very pleasing. The table hides an open fireplace, underneath the great arch, while all other decorations and furnishings harmonize with the general effect. The room is heavily carpeted and the table, desks and chairs are all solid mahogany.

At the same end of this immense floor is the office of William A. Radford, president of the AMERICAN CARPENTER & BUILDER CO. and editor-in-chief of the magazine. Photograph No. 11 gives an excellent view of Mr. Radford's office, showing him seated at his desk. It is from this desk that he directs the entire policy of the magazine. He keeps in close touch with the needs and wishes of every subscriber, frequently writing personal letters to them whenever occasion requires. Mr. Radford's broad knowledge of the building industry, his wide experience as an editor and publisher, and his ability to put into a magazine just what the carpenter, builder and contractor needs and wants, has had the greatest possible influence on the great success of the AMERICAN CARPENTER AND BUILDER.

Illustration No. 12 shows Mr. C. W. Radford, vice-president of our company, seated at his desk. Mr. Radford is a brother of the president, and aids materially in shaping the policies of the magazine. He keeps constantly in touch with all that is being done in all branches of the business, and his far-sighted suggestions aid in keeping the magazine to a fixed course of giving invaluable instruction and advice to the subscriber.



11. Office of the President and Editor-in-Chief



12. Office of the Vice-President

No. 13 shows the general manager in his private office dictating letters in response to those received in the morning's mail. Under his direction comes the direct supervision of all the details of office management, the deciding of all questions which arise regarding the handling of advertising and subscriptions, the directing of all employes, both inside and outside the office, and the contracting for all printing, paper and supplies. The calls for instruction from the heads of various departments, and the calls from business people wishing to make arrangements of every conceivable kind with the magazine, make the general manager's office a very busy place. Yet he is never too busy to receive subscribers when they call at the office from out of town.



13. General Manager's Office

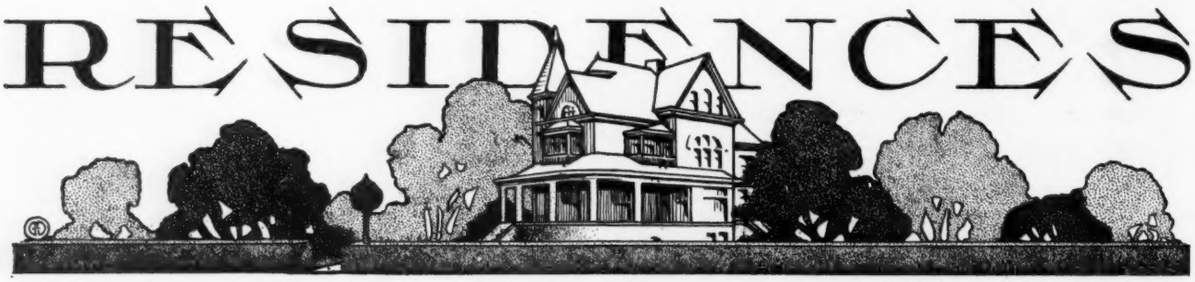
In photograph No. 14 is shown the editor, busy with his work in getting the contents together for this issue of the magazine. At the left may be seen copies of the various magazines devoted to building construction in its various branches. The editor must keep in touch with all that is printed, and nothing new that is of value to our readers ever escapes him. At his side is his stenographer, who is kept busy taking dictation of editorials, or replies to the hundreds of letters which the editor is called upon to answer. Every conceivable question concerning every possible branch of the building trade is asked, and he has never yet failed to give the subscriber the information desired.

We trust that this description and the photographs will give the members of our great family of subscribers some little idea of the magnitude of the enterprise of which they are a part. We want to repeat our invitation to have you come and visit us. You will be welcome and we will be glad to show you around the office and explain any feature of the business with which you may not be familiar. We want you to consider that our office and its facilities are yours. We will be glad to welcome you and will do all in our power to make your visit to the city a pleasant and profitable one.



14. Editor's Office

RESIDENCES



Attractive Practical Houses

ELEVATIONS AND FLOOR PLANS OF A NUMBER OF ARTISTIC HOUSES SHOWN—SPECIAL FEATURES IN EACH POINTED OUT

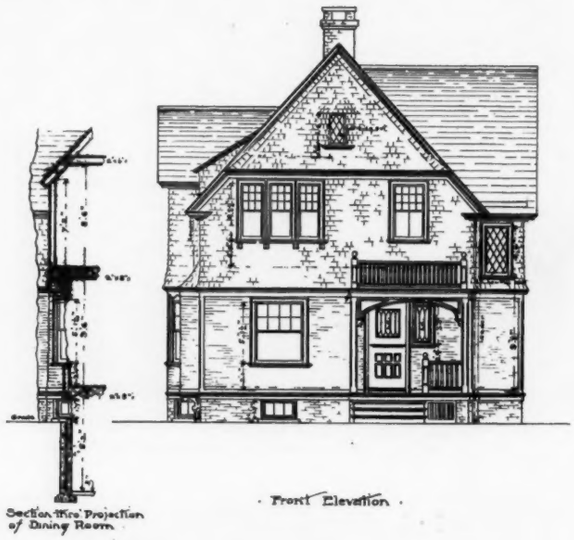
THE little cottage here shown was designed by A. Raymond Ellis, of Hartford, Conn., and is an architectural success, it being inexpensive, compact and no space wasted. The following brief description will merely touch on the most important



points which are not shown by the very full and complete plans.

The large living room, centering on the dining room, makes a charming and homelike arrangement. The fire place is so located that one chimney stack is sufficient for the entire house. The stairs are direct and





very compact. The service portion is adequate, containing plenty of closet space, well lighted and very direct.

The second floor contains four chambers of good size, light and airy, with plenty of closet room. One



small finished room could be obtained in the attic, using the rest of the available space for storage.

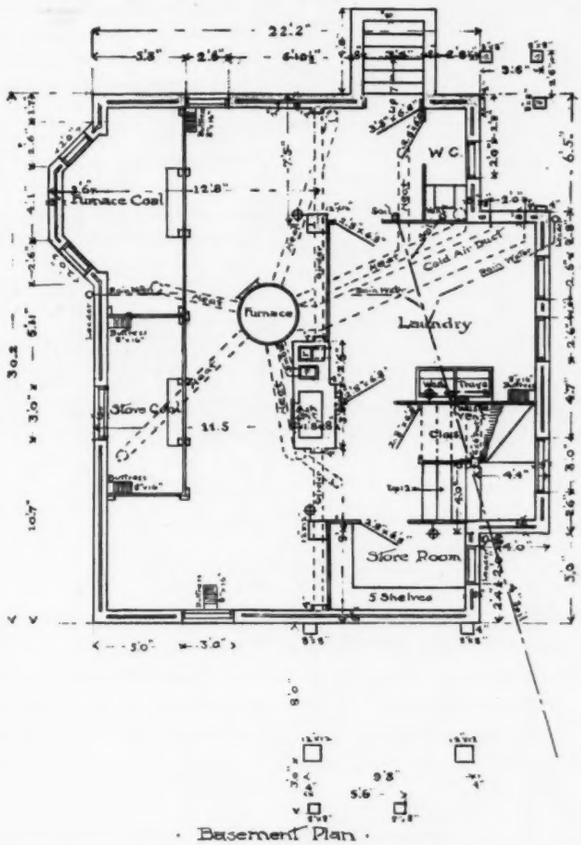
The cellar has a cement floor, is well lighted, con-

tains a good sized laundry, hot air furnace, coal bins and bulkhead leading to the grade.

These plans are the accurate working drawings, an eighth of an inch to a foot scale, accurately drawn and figured so that, from these cuts, the house could be built.

The framing is balloon frame, thoroughly spiked and braced, comprising 4 by 6 sills, 6 by 8 girders, 2 by 10 and 2 by 8 floor joists, 4 by 4 plate and partition caps, 2 by four studding and 4 by 4 corner posts, all of spruce.

The hall is finished in white wood, painted white. The stairs have cherry rail and oak treads. Finish of the dining room and living room is cypress, stained



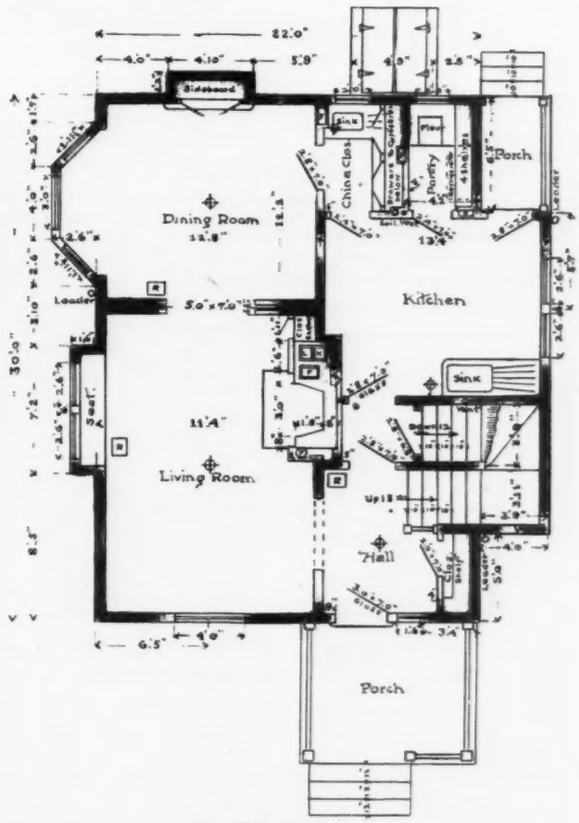
· Basement Plan ·

a dark Flemish brown, with very simple detail. The fireplace is laid up in common red brick in Flemish bond, with broad white mortar joints. The floors throughout the first floor are North Carolina rift hard pine, oiled and waxed. The finish in kitchen and pantries is of hard pine finish. The second floor is of narrow matched selected spruce flooring, with white wood standing finish for paint or stain.

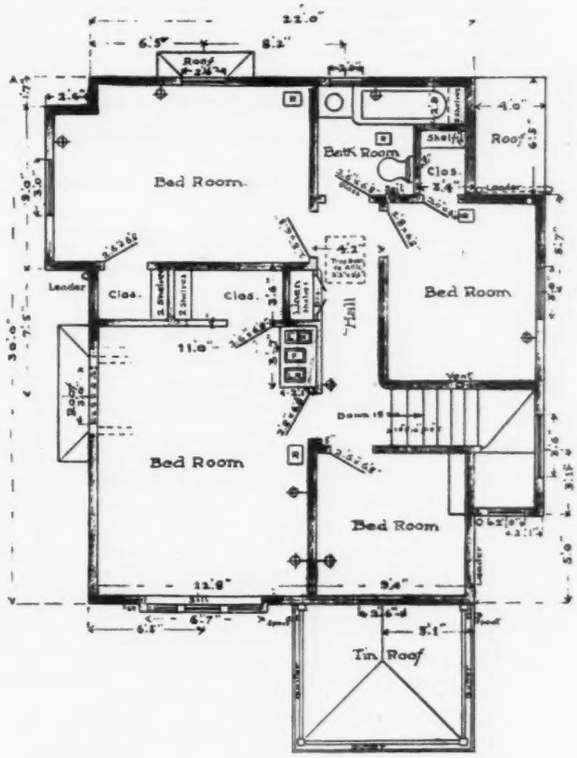
The entire exterior is covered with 18 inch cedar shingles, extra clear, laid 4½ to the weather. One thickness of building paper should be placed between all double floors, and between the exterior boarding and shingles. All outside trim is of cypress.

A Roomy House

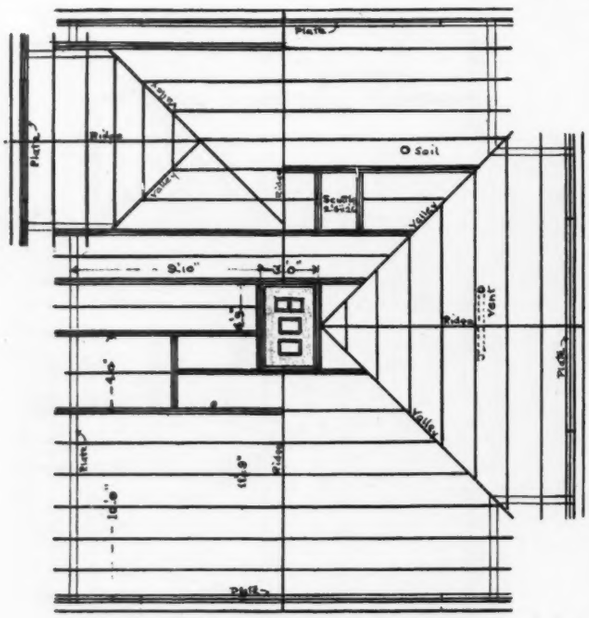
A house that combines architectural features and



· First Story Plan ·

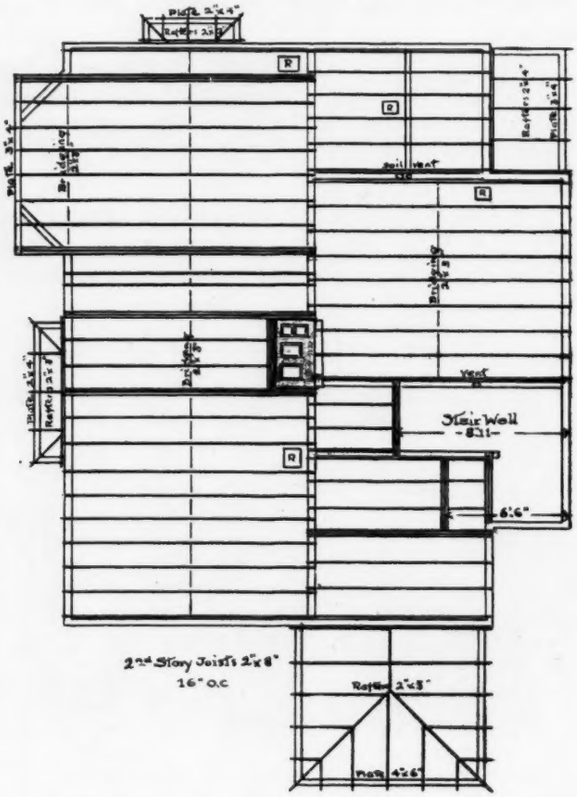


· Second Story Plan ·



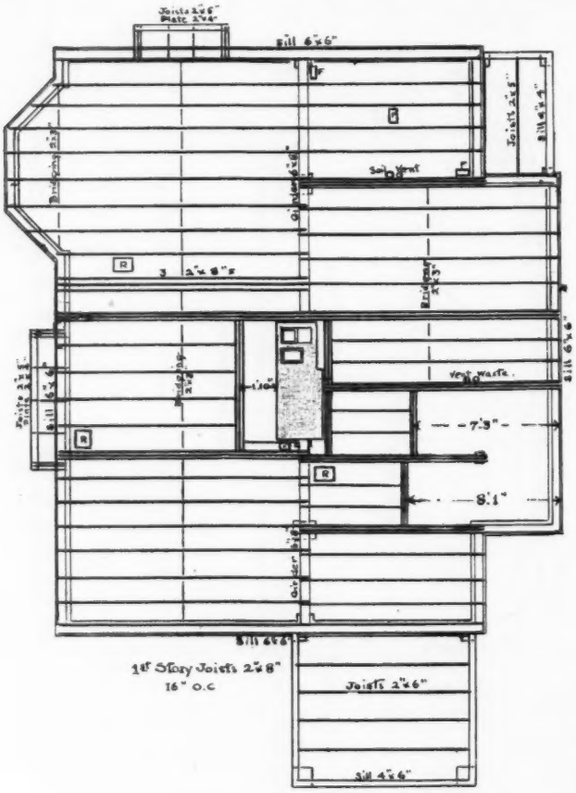
plenty of space is shown on page 65. The general outside appearance is quite pretentious and can be made more so by the proper selection of material and color. The lower half of the building can be constructed of cement plaster, brick, or concrete blocks as the owner desires. The upper half here designed is for shingles. There is a large well lighted basement under the entire house which is divided into a furnace and fuel room, vegetable and storage room.

The first floor is divided into a parlor, living room,



· Second Story Framing Plan ·

dining room, kitchen and a conservatory. The conservatory is right off from the dining room and if so desired, can be left out, thereby enlarging the dining room by five feet. This should not be done, however, if it can be avoided, as a place of this kind is an inexpensive luxury and makes a very attractive feature in houses.

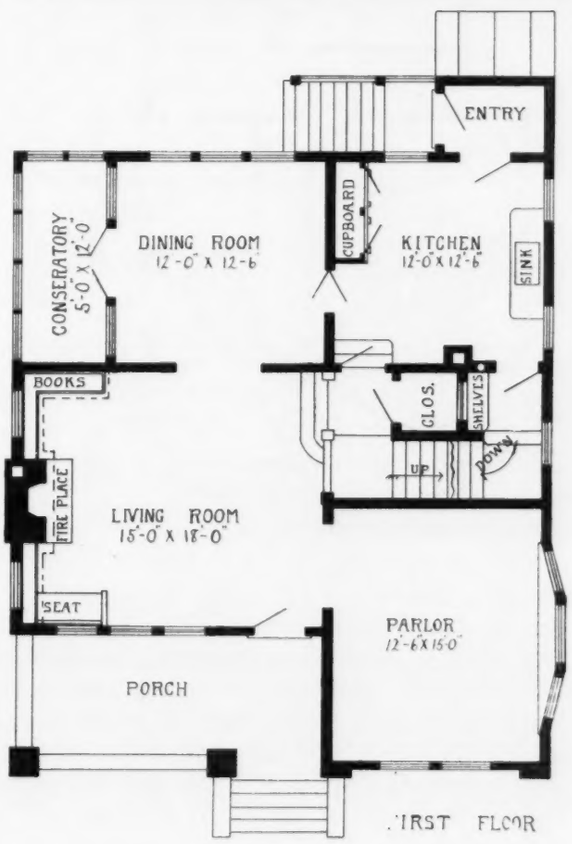


· First Story Framing Plan ·



House at Berwyn, Ill.





FIRST FLOOR

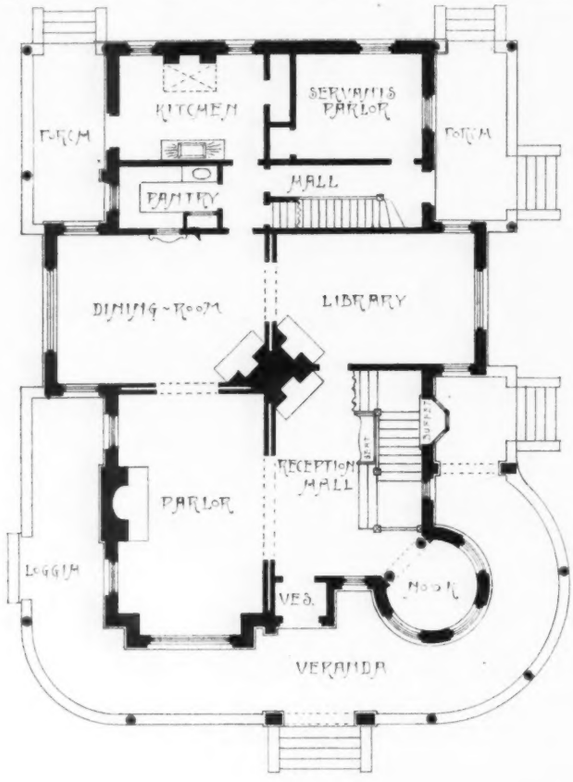


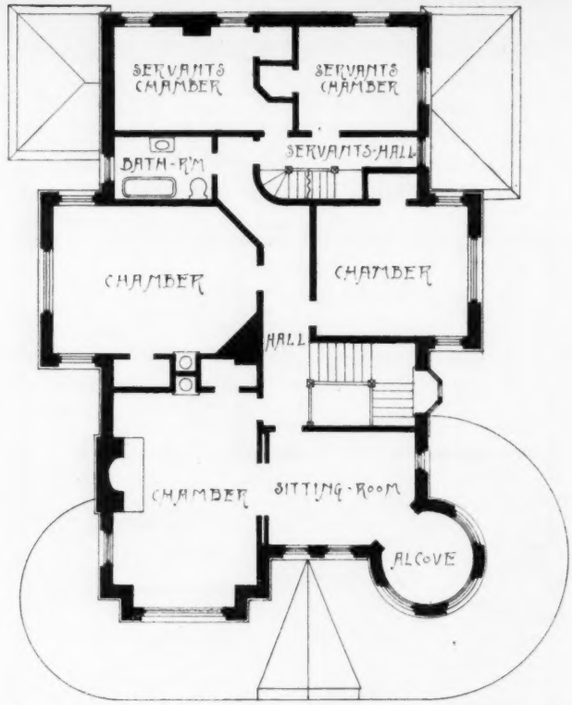
SECOND FLOOR

The living room is the pleasantest room in the house, having a large fire place at one side and book cases running the height of the fire place around part of



the room. Arranging a room in this manner has a greater tendency toward keeping the young men at home and becoming interested in good literature than anything else. Whenever a small added expense can bring out a number of good results, it is money well spent, and nowhere can money be invested to better





advantage than in the living room. Off from the living room is a stairway leading to the second floor which is divided into three bedrooms, a study and a bath room. The study can also be used as a sewing room if so desired. The bedrooms are all equipped with closets and there is also a large closet in the hall-way fitted up with shelves where things can be neatly put away.

On page 66 we show the perspective aud floor plans of the home of John D. Gougar, at Lafayette, Ind. This is one of the handsomest and completest residences in that city and is constructed of cherry



A Row of Attractive Houses

pressed brick and Bedford white stone. The interior arrangements and finish are for convenience and elegance combined. All woods used are selected and finished in the natural color. The halls and library and all floors are in one-quarter sawed white oak;



Porch and Yard for the Children

parlor in white walnut, dining room in cherry and bedrooms in white walnut and red birch. The mantels are of the wood corresponding to the finish of each room, and of special designs. The parlor mantel is richly hand-carved. The dining room is another special feature of the interior and is decorated with souvenirs from various foreign countries which have been visited by the owners. The art glass in the windows is especially designed for each room. The six panes in the oriel window carry out a Swiss mountain scene in a single scheme; the single glass in the parlor mantel is a beautiful landscape, while a bunch of trailing arbutus adorns the window of a room frescoed in pink and apple blossoms.

The cellar extends under the entire structure and is plastered and cemented throughout; it contains laundry, drying room, servants' bath, furnace, store room, etc. The whole house is heated with the hot water system and there is natural gas in all the grates and furnaces.

The Kind Desired

A well-known Washington architect who has just returned from Boston, says *Harper's Weekly*, is chortling over a good joke on that correct and literary city. He says that in the reading-room of one of the most exclusive clubs in the Hub there is a sign that reads:

ONLY LOW CONVERSATION PERMITTED HERE.

Preventing Pencil Marks Rubbing Out

Take well-skimmed milk and dilute with an equal bulk of water. Wash the pencil marks (whether writing or drawing), with this liquid, using a soft camel-hair flat brush, and avoiding all rubbing. Place upon a flat board to dry.

A strong application of ordinary spirits of camphor will remove almost any kind of polish or varnish. Give the spirit time to evaporate before repolishing, or it will injure the new polish.



The Question of Gasoline Engines

THINGS TO BE CONSIDERED WHEN PURCHASING AN ENGINE—ADVANTAGES AND DISADVANTAGES OF USING GASOLINE ENGINES

IN THE earlier days of the AMERICAN CARPENTER AND BUILDER one of the questions discussed as being interesting to the carpenter who desired to put in a small amount of machinery was the gasoline engine and its application to this work. This continues to be a live subject and is growing in importance all the time as carpenters come to realize the benefits, and practically the necessity of having some power appliances to help do the work. Moreover, we get evidence right along that the trade is interested in this subject in the way of personal inquiries. These inquiries also bring into the matter another question, and that is, the one of how to select an engine and how to get information for guidance in making a selection. Users and prospective users of gasoline engines in this work inquire for books on the subject. There are plenty of books on gasoline engine subjects, but it is doubtful if there is any one covering exactly what some of these inquirers want, and there is evidently room for a book on the subject of how to select a gasoline engine.

The trouble is, that by the time one could write and get out such a book there would be new gasoline engines with new improvements, making the book out of date and incomplete. This sounds discouraging, but it's just a little of what a man may expect a lot of when he goes seeking information about how and where to buy a gasoline engine. The use of these engines has grown so extensively the past few years and the field of the manufacturer so large, and the variety of engines so numerous, that it is practically out of the question to give them all due consideration and weigh the merits of each one against all the others. In other words, it's impossible to go into definite details about the points of an engine, and compare these same points to points in all other engines, and about all one can do is to give a little general advice, advice that applies in the selection of any engine, or any machine for that matter.

The first rule governing advice of this kind is that one should not let the idea of first cost in an engine overshadow the item of operating expense or of the work it will do. May be it would not be exactly safe to go to the extreme, as some buyers of wood working machinery go, and make it a point to buy the highest priced machine offered, but still, it would be safer to follow this idea than to follow the other extreme and buy the lowest priced one. There is no objection to the low price itself, it's inviting, and appeals to our natural bargaining instinct, but it is cheaper in the end to pay a good price for an engine that has economy of gasoline requirements per horse power, and has durability that will insure steady work, than it is to buy at a bargain some engine that is a hog after gasoline, and is uncertain in its habits, one that will run nicely right along for a while and then may balk on you when you need it most. It behooves any man, of course, to keep one eye out for first cost, but the cost should be merely an incident rather than a deciding factor in the purchasing of an engine. The deciding factor should be the amount of power it will give, the economy in gasoline, and its durability and ease of manipulation. There enters here also the matter of simplicity. And strange as it may seem, too, this is a great age for simplicity, and the finest and best machines are those that are simple of design and have the fewest possible parts. In this connection there is a caution used in the application of simplicity to humanity which says that ignorance must not be mistaken for simplicity, and something of the same kind might be applied, but in a different way, to engines and machines. In other words, an incompetent and poor stick of an engine generally might be paraded on its simplicty, and yet all it offered would be the semblance of simplicity without any real merit. Generally, however, it does not require extensive acquaintance with the technicalities of the business for one to distinguish between crudeness and simplicity. The thing to do is to find the engine that is freest from delicately complicated parts that are likely to get out of order.

With some people weight is an object in the gasoline engine, or rather, lack of weight. They want a gasoline engine with a given horse power with the least weight possible. This is especially true of engines for driving launches and other vessels, and for driving automobiles, but it should not be applied

to the carpenter shop. In other words, if I were selecting an engine for a carpenter shop I would not hunt for the manufacturer who makes a specialty of building engines of the lightest possible weight. His engines may be all right, but they are built with the main eye toward filling the requirements of another kind of work. A little extra weight won't hurt the engine in your shop and it's a good thing to have sometimes. And, any way, the thing a carpenter is most anxious about is to get an engine that he can start up in the morning, or any other time during the day, without having to tinker with it for a half hour or more and know that it's going to run right along until he stops it without requiring any special attention from him, without using up so much gasoline that it will make him wince when he comes to paying the bill.

It does not sound exactly fair to the new man in the gasoline engine business, but probably the safest way for a carpenter unfamiliar with these engines is to take his wants to those manufacturers who have already established reputations, explain exactly what he wants and make them give him a specific and tangible guarantee. Here is a point to be careful of also, lest you get tripped or tangled up, for it's a well known fact that either along with, or in place of guarantees, some manufacturers give a test record or a test guarantee. That is probably all right in its place, but frequently, translated into plain English, does not really mean a thing. If a man offers you a guarantee that you can not understand, tell him so, admit your ignorance unblushingly, and make him put it to you in plain English, make him tell you straight out what his engine will do after you explain your requirements, and if he won't do that, if he won't give you a guarantee in plain terms that sounds reasonable and is easily understood, go try another gasoline engine man. By and by, after you try several and talk gasoline engines with their salesmen and read descriptive circulars of a few dozen you will begin to get some ideas of your own on the gasoline engine, after which you will probably be in a position to give the new man in the engine business a chance to show what he has to offer. May be it's something good, or may be it's some freak notion he is exploiting. But if you think he has got a good thing, yet are not sure of it, put it up to him in the same way, ask him to make you a plain guarantee, one that you can understand for yourself without having to get a technical man for interpreting, and then find out that it really does not mean anything.

To go back to the subject of power appliances in a general way, it is well to bear in mind that where it is available and is wanted in small units only, electric power is probably the best thing to turn to. This is especially true in large cities where plenty of power can be obtained at reasonable rates, and where the difference in the insurance between operating with electricity and gasoline engine is quite an item. The beauty of electricity is that you don't have to bother about it at all. Yon have your motor and your switch and you can cut in for a minute and then out again, with practically no trouble. It is clean, it doesn't take up any room nor get in the way, and though it generally comes higher, where any large qauntity is used, than gasoline, gas or steam power, it is really cheaper and more satisfactory in the end where your requirements only call for small quantities, say anywhere from one to six or eight horse power. You can put motors direct on machines, or take a little light line shaft and attach a motor to it and drive several machines from the same motor.

At country points, where electricity is not available, the ideal field for gasoline engines is to cover power requirements ranging from one up to ten horse power. Some use larger engines, some use them up to twenty-five horse power and even higher, but on the larger engines there is very seldom any economy as compared to steam plants, unless one should be located where fuel is excessively high. Where a plant is run intermittently, however, there are conveniences about the gasoline engine which the steam plant does not offer. You can start it up immediately and run an hour or two and then stop it, whereas with the steam plant one would have to raise steam to start, and then to stop the plant in the midst of the day would mean to let the fire die down and thus waste lots of fuel. Therefore, the question as applied to the larger engines depends somewhat on local conditions, but in smaller units in the average carpenter shop where power requirements run at various points between the extremes of one and ten horse power the gasoline engine is, without question, the ideal thing, and such an engine should prove a good investment where the carpenter has work to justify it.

✣

Turpentine Advances

Turpentine has advanced one cent this week with local jobbers and is now quoted at 77 cents in barrels. There is no change in price of linseed oil nor white lead. Prices on window glass remain same, although manufacturers predict higher prices. The demand for mixed paint and for glass is enormous for this time of year. Paint manufacturers report that the year 1906 was one of the best in the history of the paint industry, and that trade last year was even better than the year 1905. But it is stated that the net profits have not in all cases been as large as the increased trade for 1906 would warrant.

✣

I must say that your magazine is a great help to every carpenter and I cannot see how so many can get along without it.

CARL STEINER, Cissna Park, Ill.



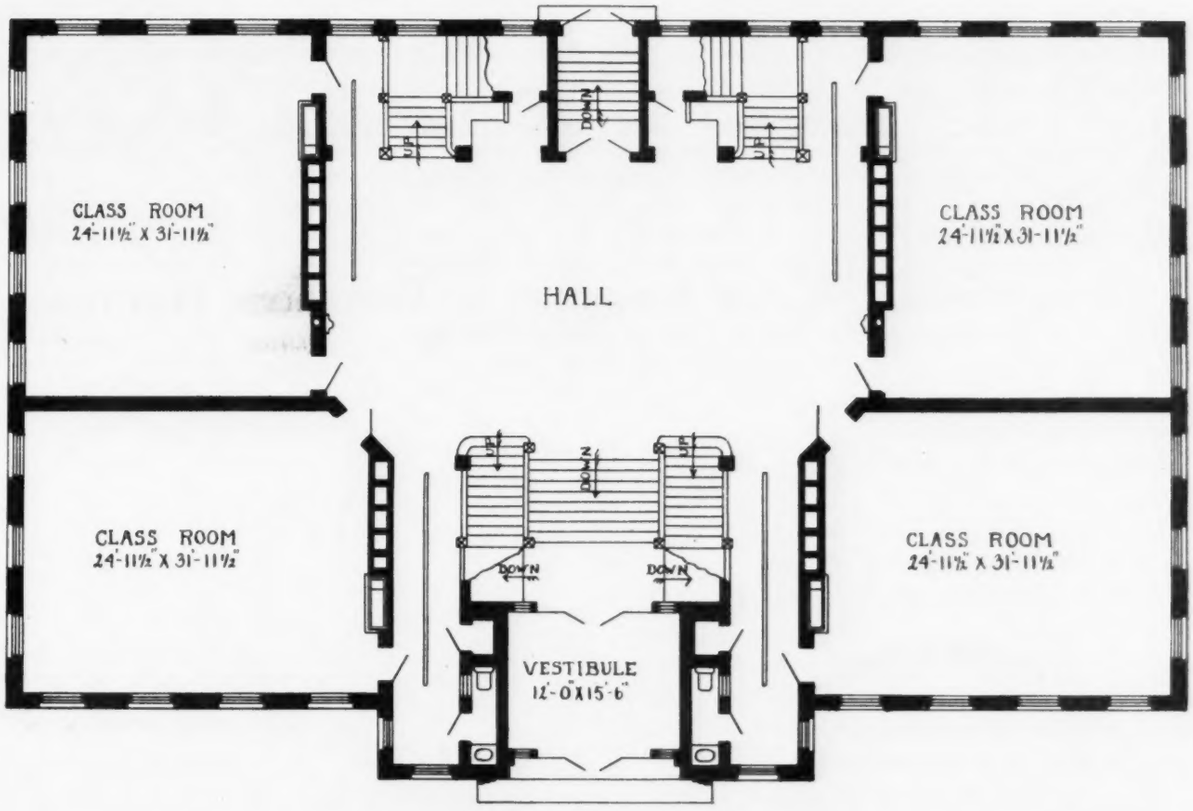
Modern School Building

HAVING MANY NEW FEATURES SHOWING THE MOST MODERN METHOD OF SCHOOL HOUSE CONSTRUCTION—PERSPECTIVE AND FLOOR PLANS SHOWN

THE school house here shown was designed by G. W. Ashby, architect, and is being built at Harvey, Ill. It is one of the most modern and up-to-date buildings and conforms with the latest ideas in school house construction. The building is constructed of mottled vitrified pressed brick laid in concave joints. The foundation is of stone and all the trimming of Bedford stone. The roof is of slate, the cornice of galvanized iron, and the gutter of copper. There is a basement under the entire building which has a nine-foot ceiling. It contains the manual training room, domestic science rooms, store rooms, boys' and girls' toilet rooms, the boiler room and fresh air room. All the modern school buildings now contain manual training and domestic science rooms, as the people are beginning to appreciate that book learning alone does not by any means complete a child's education. Many ideas studied from the book are now worked out in actual practice in the manual training and domestic science departments and goes to prove that the old school master in the days of Dickens was not so far wrong when, after asking the boys to diagram the sentence, "The boys are washing the windows," made them perform the task.

The first floor is divided into four class rooms and a main hall which is 50 by 27 feet in the clear outside of the stairs. This is used for exercises of various kinds and chairs can be placed in the entire hall and this does away with the inconvenient feature of having people from 30 to 60 years old trying to sit in the seats designed especially for the children anywhere from 6 to 16 years of age. It is not at all surprising that school exercises in the past have been considered a necessary evil when you were hunched up in a seat with a cramp in every muscle listening to your neighbor's boy recite what he will do when he is a man. With a hall of this kind some comfort can be derived out of these entertainments, and if they become too

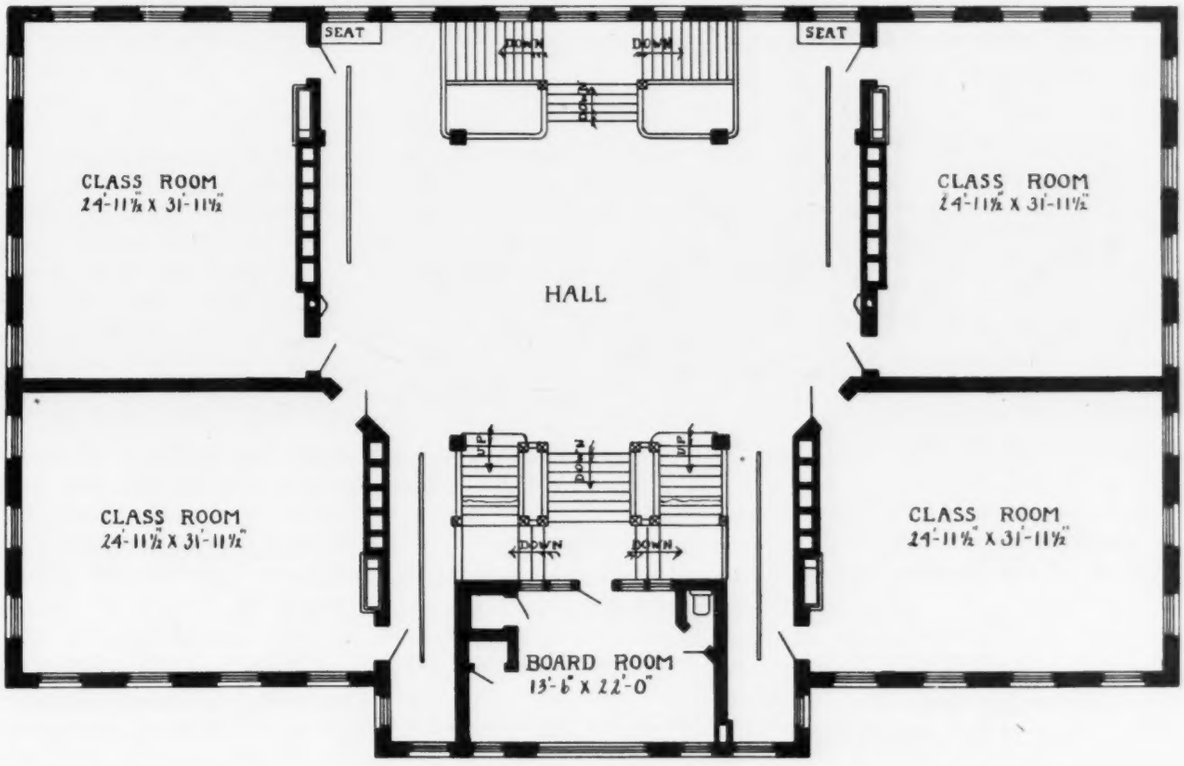




MAIN FLOOR PLAN

tedious, you can sleep in comfort and not wake up with perspiration breaking out from every pore.

The second floor is divided into four class rooms, a school board room which also contains a fire proof vault. Here the records of the school can be kept and also the proceedings of the school board.



SECOND FLOOR PLAN



PLUMBING

WM R. MARSHALL

Pneumatic Water Supply for Country Homes

GIVING COMPLETE INFORMATION AS TO THE DESIGNS, CAPACITY AND COST OF THE ENTIRE OUTFIT — ADVANTAGES OVER OTHER SYSTEMS

IF THERE has been any more interest taken in one particular subject of the articles appearing in the AMERICAN CARPENTER AND BUILDER it has been "Pneumatic Water Supply for Country Homes"—almost every mail bringing an inquiry from some section of the country inquiring for more specific information regarding the practicability, the size necessary, the advantage over gravity systems, the method of operation, the price and numerous other questions.

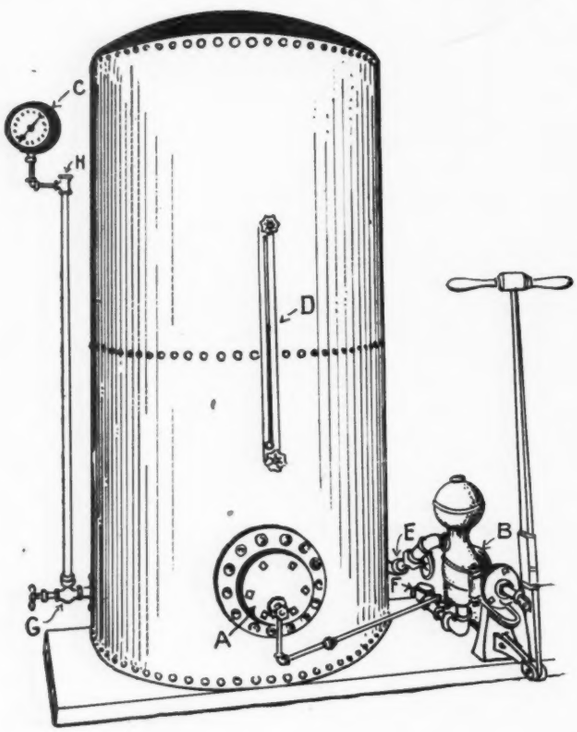


FIG. 1.

While I have tried to explain the system in detail, the number of inquiries implies that I have not sufficiently covered the subject to satisfy the readers of this magazine, and it is to furnish to these readers a most minute description and explanation of this system that this article is written, trusting that I can answer all the questions which could possibly be asked. In the first place I believe it would be safe to estimate that the number of pneumatic outfits in use throughout the country is about 5,000. Pneumatic water supply systems were first put on the market about 1897 and their practicability has been proven from the start.

Operation

The operation of the pneumatic system is pumping water into an air tight tank, compressing the air within the tank, which exerts a pressure on the water sufficient to force it to the desired height. Where the tank is empty (as commonly expressed) it is not empty at all—it is full of air. Now suppose we take an air-tight tank and close all the openings except one opening at the bottom and force water into that, by any means whatsoever, but for point of illustration, say a hand pump, the air in the tank having no outlet is compressed into the upper part of the tank as the water is forced into it. When the tank is half full of water, the air in the tank has been compressed into the other half and will exert a pressure of fifteen pounds to the square inch on the water in the tank. If a supply pipe is now run from the bottom of the tank up in the air, the air pressure in the tank will force the water in the tank to a height of thirty-three feet. This is the fundamental principle. In actual practice it would be necessary to have the tank at least one-third full of water before the air in the tank is sufficiently compressed to force the water up to the second floor. The first objection, therefore, is the waste space in the tank. Secondly, the air is gradually absorbed by the water and is gradually lost, as it escapes with the water as the water is drawn off, and unless some means are provided to replace the air the tank will gradually become waterlogged. It is therefore necessary to provide some means of replacing the air lost. There are several ways of accomplishing this and the different methods are fully described in the explanation of the workings of the two outfits shown herewith. Experiments have proven that the best results are obtained by maintaining an excess pressure of ten pounds air pressure, which means pumping air into the tank until the air pressure gauge shows ten pounds—before any water is forced into the tank—a tank thus treated will deliver double

the amount of water than otherwise. As regards the advantages of the pneumatic water supply system, elevated tanks are generally necessarily exposed to the climatic changes of the seasons so that in the summer time the water is warm and in the winter ice cold. The elevated tank and its pipings, unless expensively protected, will freeze in the winter and become inoperative; in addition to the aforementioned objections an elevated tank is an expensive proposition to maintain. Exposed to the weather, it requires frequent painting and other repairs. The pneumatic tank is placed in the cellar or underground, protected from the weather, needs no repairs, and will deliver water at an even temperature the year around.

Types of Outfits

In Fig. 1 is shown a vertical tank outfit with an automatic air valve, pump valves and fittings. This

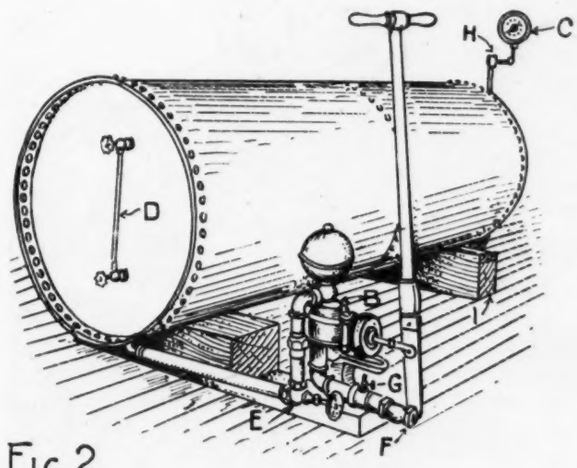


FIG. 2.

outfit has a tank of a total capacity of 315 gallons, after deducting the space which the air will occupy (which is usually figured at one-third of the total capacity of the tank), will deliver 210 gallons of water. This outfit is equipped with an automatic air valve (A) which permits the maintaining of just the proper amount of air in the tank. In operation this valve is controlled by a float mechanism, when the tank contains just the proper amount of air the valve closes and no more air can be forced into the tank. When the supply of air in the tank falls below the point at which the valve is set (for proper proportion of air), the water having a greater upward pressure than when the tank is properly filled with air, will raise the float which controls the valve, opening it and allowing a fresh supply of air to be taken in. The value of an automatic device lies in the fact that it requires no attention and fulfills its functions accurately, and as a pneumatic water system's capacity depends greatly upon the proper mixture of air and water, the additional cost is worth the difference. The manufacturers of this outfit guarantee that a pressure of fifty pounds to the square inch can be developed with this outfit, which will deliver water to the height of one hundred feet above the tank, or the distance of one mile, if in the horizontal. This outfit requires about ten minutes' pumping per day to furnish sufficient supply of water for ordinary requirements. Twenty feet is the highest point above the level of the water in the well or cistern at which this tank should be set, but not neecssarily over the well, and different pumps can be furnished for deep wells.

Explanation of Sketch

A. 1 36-inch by 6-foot pneumatic tank with automatic air valve.
B. Double-acting hand force pump, brass lined.
C. Air pressure gauge.
E. Special valve on discharge pipe into tank.
F. Special check valve on suction pipe to cistern or well.
G. Angle valve on service pipe.
H. Connection for pipe to house service.

This outfit, complete with pipe, unions, elbows, tees, all fitted as shown in sketch, can be purchased for the net sum of $200, and is of sufficient capacity for kitchen, bathroom and laundry.

Sketch II

A. 30-inch by 8-foot pneumatic tank.
B. 1 hand force pump, brass lined.
C. Air pressure gauge.
D. Water gauge.
E. Angle valve on discharge pipe.
F. Check valve on suction pipe.
G. Hand air valve.
H. Supply connection to house service.

This outfit has a total capacity of 295 gallons and with the proper proportion of air will deliver 200 gallons of water. This outfit is without the automatic air valve, and hand air valve (G) is used to provide the proper amount.

For Farmers

Where a larger outfit is wanted for furnishing water to stock a 5 by 24-foot tank outfit can be had for about $500, which includes a regulating windmill force pump head and a cylinder. This size outfit has a working capacity of about 1,500 gallons of water. Warning—do not try to rig up a home made affair, as you will fail to build a good working outfit unless you buy a tank especially made and warranted to be air-tight.

Drawing the Line

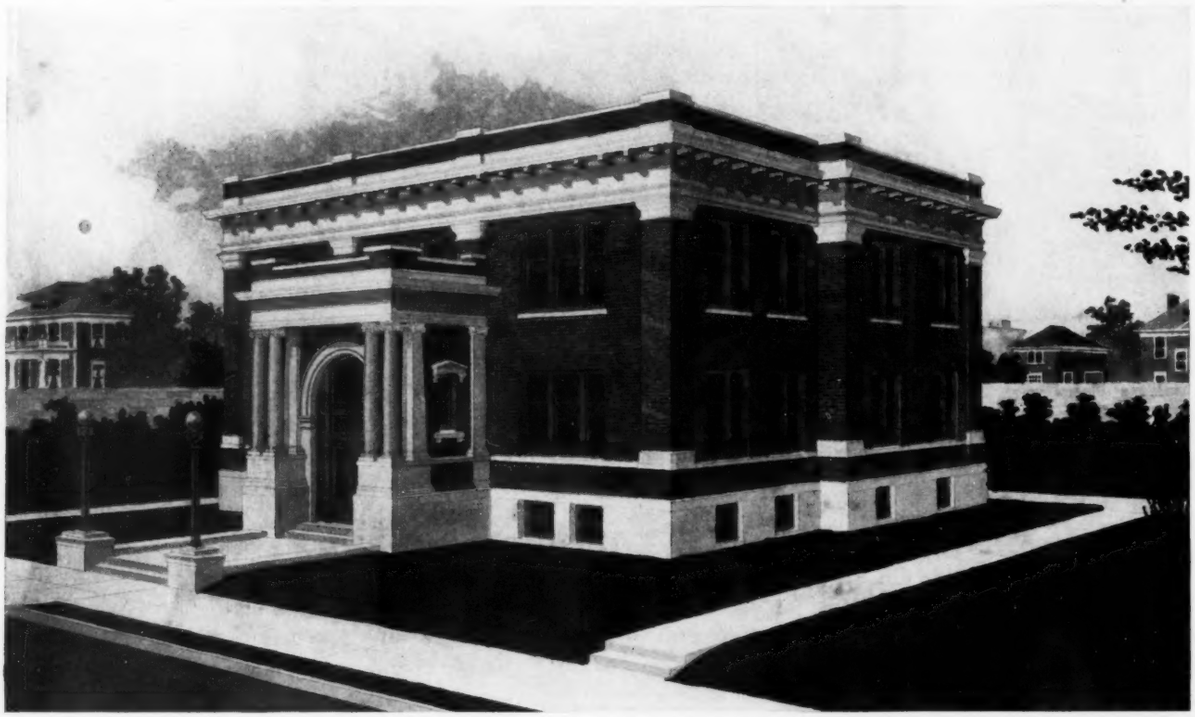
Architect—"And about the drawing-room, sir?"

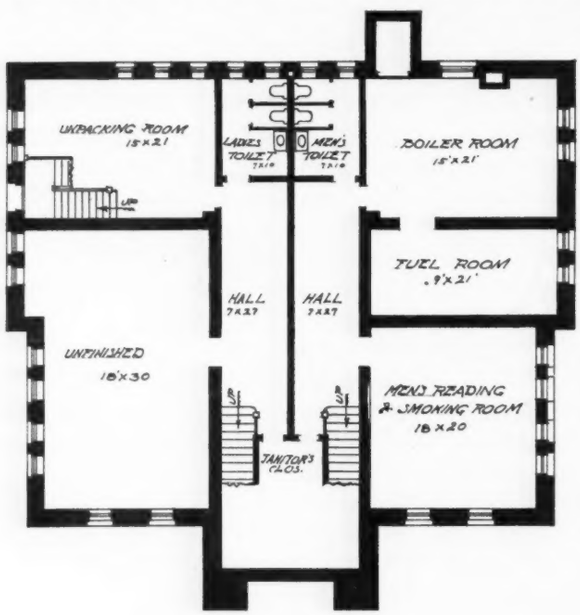
Newrich—"Now, look 'ere, I've let yer put in a billiard room when I can't play billiard, and a reading room when I don't like reading; but when it comes to putting in a drawing-room, when I can't draw a line, I object. It's a bit too thick; I want a house, not a home for artists."

Attractive Library Building

TENDENCY TOWARD THE ERECTION OF BETTER AND MORE ARTISTIC PUBLIC BUILDINGS — NEW FEATURES SHOWN IN THIS PLAN

WE ARE this month showing the perspective and floor plans of a modern public library, designed by G. W. Ashby, architect. It clearly shows that a building can be made very artistic and yet be inexpensive. The communities are becoming more particular in regard to the appearance of their public buildings. They desire something more than four walls and a roof, and the result is that as much taste is being shown in the direction of the public buildings as is being shown in private enterprises. This building is constructed of red paving brick with a stone foundation and stone trimming. It has a composition roof and all the windows are plate glass. One of the pleasing exterior features of this building is the front entrance with its vestibule, which lends individuality to a building of this nature. While it is essential to have the exterior appearance pleasing to the eye and as much in harmony with the other public buildings as possible, still the most important feature is the interior arrangement of the same. There are many features in the interior arrangement of this building which are not usually found in a public library.

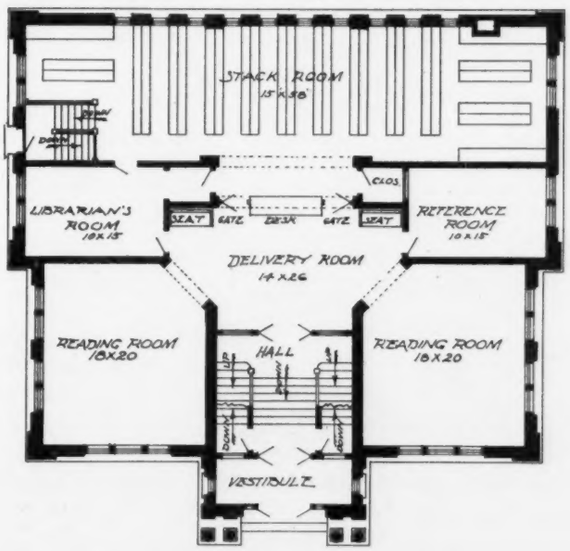




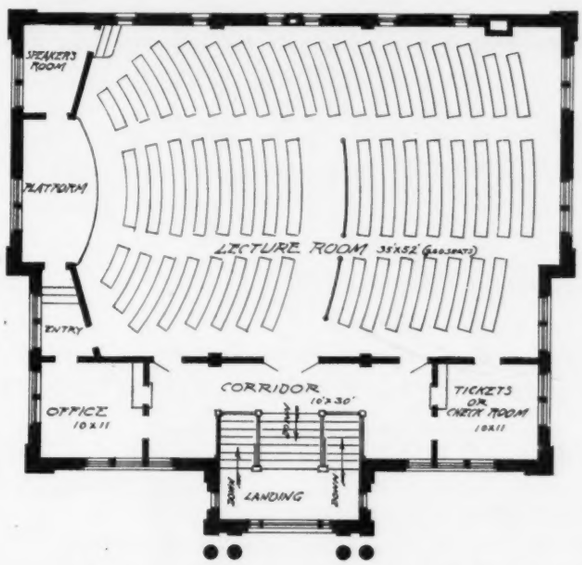
The basement is divided into the boiler room, fuel room, unpacking room, toilet rooms and a men's reading and smoking room. The smoking room at a first glance may seem a little out of place in a public library, but upon second thought it will prove a very good feature, as many men would be more liable to take advantage of the library if they could smoke while reading the books. Some will say that a public library is no place for smoking and that the men should abstain from it while in the building, and while this is very fine—theoretically—the fact remains that the majority of men enjoy smoking and would be more liable to patronize the library if they could

indulge in the habit while reading. The ventilation in this room is good and is cut off from the rest of this building and would therefore not in any way interfere with any of the other rooms.

The first floor is divided into two reading rooms, stack room, reference room, librarian's room and deliv-



ery room. The reading rooms are so arranged that there are windows on two sides of each room and are located so that the librarian can see everything that is going on in each room. This is very essential as many of the small boys would feel that there was something radically wrong if they were not being



watched by some one and would be sure to create a disturbance. At each side of the librarian's desk where the books are given out are seats which can be used by people desiring to draw books to be taken home. The stack room where the books are kept is at the rear of the librarian's desk and in many cities is not open for the general public. Instead of allowing the people to handle all the books on the shelves a printed list is placed on the librarian's desk, showing what books are in stock and from these a selection can be made. In a large city this is a necessity, although it has its disadvantages.

The second floor is arranged for a lecture room, having a seating capacity of 260. This makes an ideal place for holding lectures and speeches of any public nature, and upon occasion could be rented out for private affairs and the revenue derived from the same could be used for the maintenance of the building. The arrangement is very convenient, there being a check room at one side of the entrance and the ticket office at the other. The seats are arranged in a semicircle in three sections.

The building has been very favorably commented upon and shows very forcibly that the people are demanding something better in the way of their public buildings.

Tarred Roads in England

Consul Albert Halstead forwards an article from Birmingham regarding the hygienic value of tarred roads. Road painting with tar is described as follows: "The road is first thoroughly cleaned by dry sweeping, then distilled tar is poured over it and spread evenly, after which sand is thrown on and the road is immediately ready for traffic. A fortnight or three weeks later a second coating is applied and in a short time the road has the appearance of an asphalt street. It appears also that a short stretch of road in Beckenham was treated with tar oil, which is poured over again until the pores of the road exude the preparation. This tar oil, however, dries up quickly, does not make an oily and nasty mess in wet weather and is said to be much cheaper than the tar process, but it requires more frequent renewal. A comparatively small quantity of the material is available and this is a difficulty in the way of its general adoption. The Beckenham district council is spending about $9,000 in laying down two short stretches with the most up-to-date tar macadam."

Removing Putty from Glass

Dip a small brush in nitric or muriatic acid, and with it paint over the dry putty that adheres to the broken glasses and frames of the windows. After an hour's interval the putty will have become so soft as to be easily removed.

Learning the Trade

Apprentice (after six months' experience): "I think I understand the business pretty well now."

Employer: "Yes? Keep at it four or five years. Perhaps you'll understand it then as well as you think you do now."

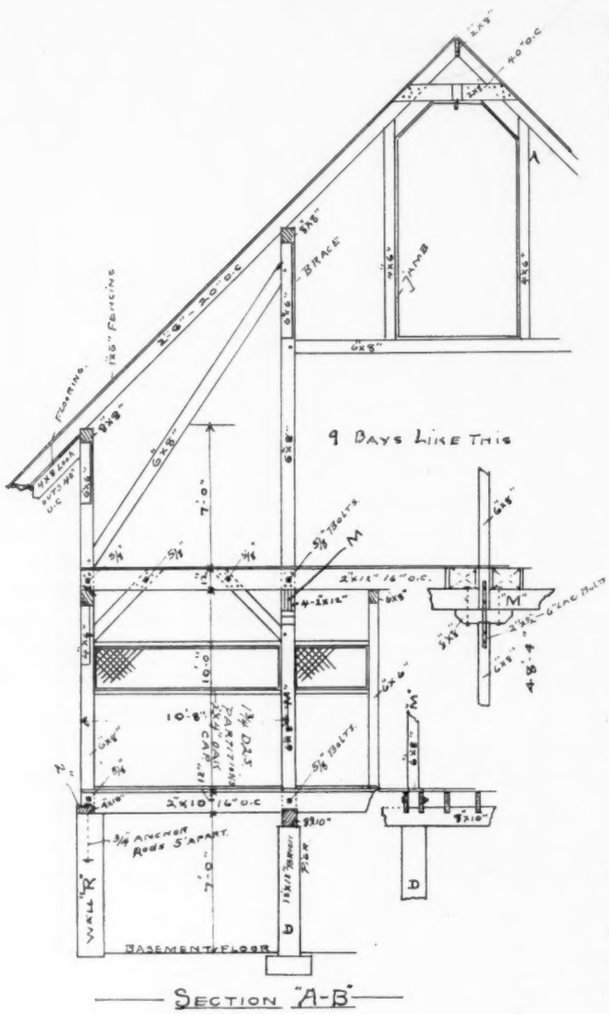
FARM BUILDINGS

HENRY H. NIEMANN

A Practical Modern Barn

DESIGN OF A BARN FOR GENERAL FARM PURPOSES—EQUIPMENT AND INTERIOR ARRANGEMENT THE MOST PRACTICAL AND UP-TO-DATE

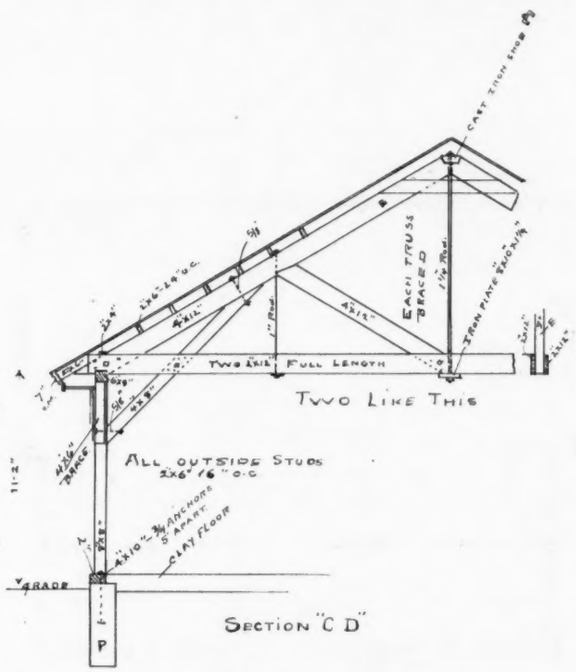
THE barn we are illustrating this month was erected for Mr. F. O. Butler on his farm, located about two miles from Hinsdale, Ill. It is the result of a very thorough study by combining the requirements of the farm, such as shelter for the live stock, hay, grain, vehicles, etc.; and the architectural requirements such as durable construction to resist the elements and the weight that it is to support, sanitation to give health and comfort to the stock, such as good drainage, heat and ventilation; and design to make the building in harmony with its surroundings.



SECTION "A-B"

As will be seen by the floor plan the building is divided into three wings. The north wing is used as a shelter for heavy wagons and farm implements, as well as a room for the exercise of the live stock; the room being of large size and clear space without posts, makes it very convenient for these purposes, and having a solid clay floor it will support any load that it may have to support, such as threshing engines, road bed rollers, etc.

The construction of the self-supporting roof over this wing will be seen in the cross-section C-D.



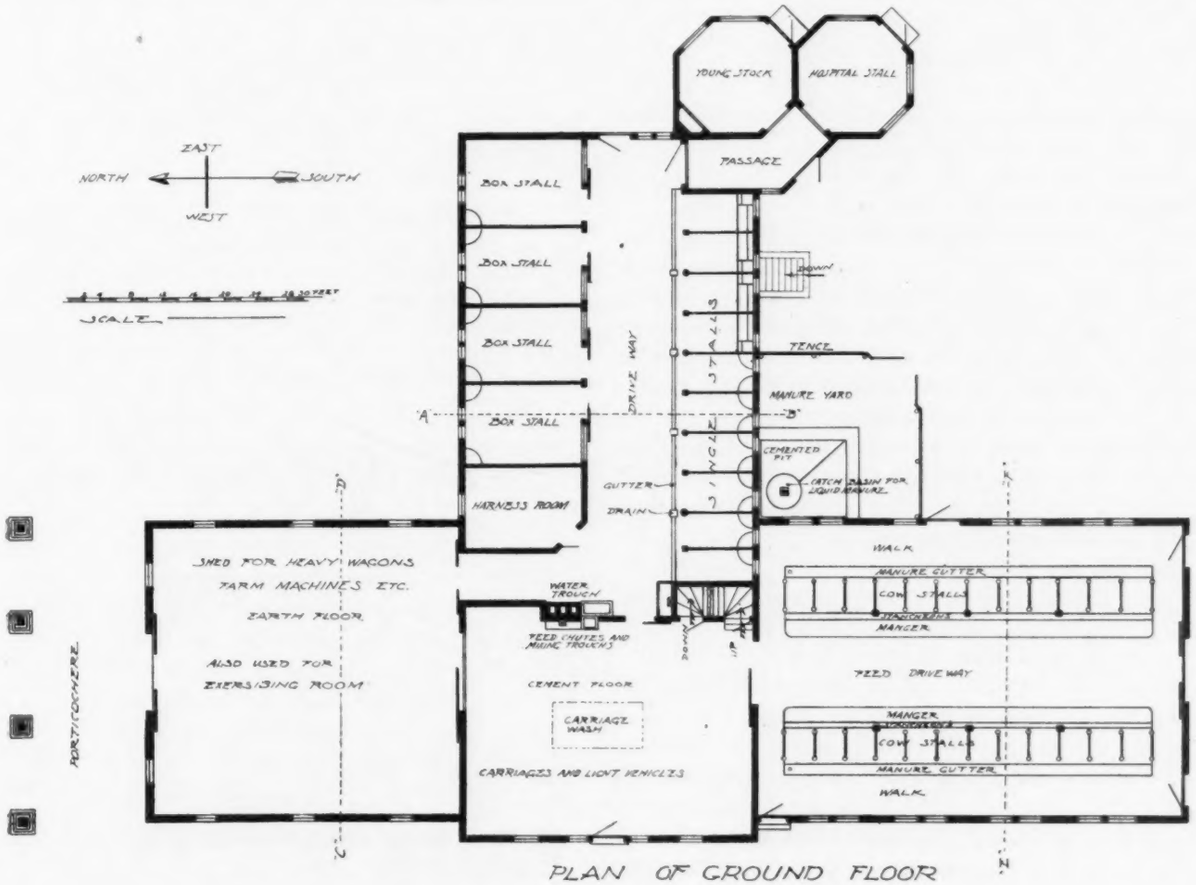
SECTION "C D"

The east wing contains the horse stable and has a large hay room above for the storage of sufficient hay, grain and bedding to winter all stock and it also contains a storage tank for water supply and rooms for night watchman. The horse stable contains ten single stalls on the south side of driveway. Each stall has individual windows, mangers and feed racks and they are separated by wood partitions running up to a height of five feet with iron grill above. The

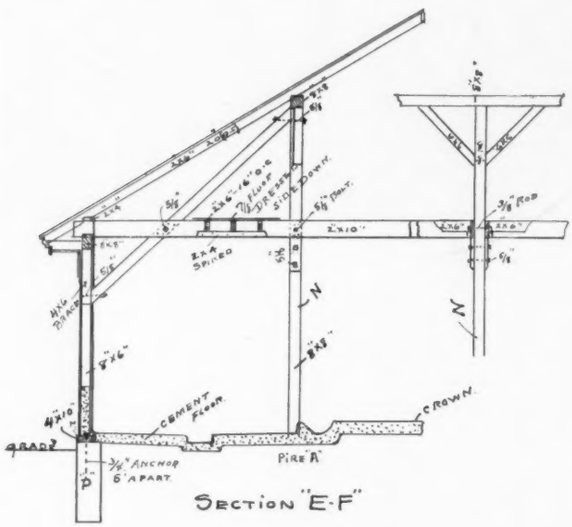


floors are of two-inch planks with a slight slope down to drain tile and joints caulked with hot tar. There are four large box stalls on north side of driveway and a harness room. Under this horse stable is a basement containing the steam heating plant, a large storage room and a root cellar. The construction of this part of the building can be seen by the cross-section A-B.

The south wing is the cow barn and contains twenty-four stalls for milch cows; facing a central driveway of sufficient width to allow a wagon to be drawn through from end to end, throwing the feed into the



mangers on either side. There is a large trap door in the ceiling of the center room, which also contains the feed chutes from grain bins and mixing troughs; from the trap door the feed is thrown from the upper floor and conveyed to the horse or cow mangers by a trolley carrier. The manure gutters of cow barn and the drain from the horse stalls are connected into a catch basin located under the floor at the northeast corner of cow barn, and from this catch basin they can be drained into the catch basin within the cemented pit as shown on the floor plan, or by means of gate valves they can be drained direct into the sewerage system as may be desired. This system



of drainage has many advantages as at every foot of drains are open ducts with loose covers which can be removed at any time in case the drains become clogged or unsanitary.

The partitions between the cow stalls are constructed of wrought pipes and iron bars and hinged to a pipe post near the head of the cow with a double acting hinge, which will allow the partition to swing to either side and at the other end of these partitions chains are fastened from one partition to the other. The advantages in the swing partitions are that the stalls can be made narrower, at the same time giving the cattle plenty of room and giving more room for milking; the partitions being pushed apart towards the adjacent cows.

When the stalls are vacant all partitions can be swung against the stanchions, giving a clear space over all the stalls without any obstructions in sweeping and scrubbing the floor.

The cow stall floors are made of plank fastened to sleepers which are bedded into a cement floor underneath and slightly pitched to gutter. The construction of this wing can be seen in the cross-section E-F.

At the east end of the horse barn there are two octagon rooms which are isolated from the main building by a closed passage and are used for calves, colts, bulls, stallions and sick stock. The exterior of the building is of good proportions and has the look of a compact and complete building; at the same time nothing is overdone, every moulding and line of ornamentation represents utility at the same time. The well-proportioned cupolas give a finishing touch to the roof and at the same time act as ventilators to exhaust all foul air from the stock rooms. The covered porch on the north end which faces the public road, gives it a look of welcome and gives character to the design.

✤

Pa's Housecleanin'

When the April sun's a-shinin' hot an' things is nice an' fresh,
When the willer's droppin tossels an' the blackbird's in the bresh,
An' pa comes in fer noonin' an' the floors is wet as souse,
Then it's "Laws-a-massy on us! Your ma's a cleanin' house!"

Then me an' Jim is sure to find rag carpets in the sun
When we'd planned to go a-fishin' fer the suckers in the run;
But while pa takes his noonin' an' the hosses eats their snacks,
Us boys can beat them carpets while we're restin' up our backs.

An' then next day pa's certain sure to have to go to town;
But he always leaves us orders: "Help to put them carpets down."
An' at night, when he gets home again, you'd think to hear him groan
About the hardship of it, that he'd done the job alone.

Poor ma! She has it awful hard, she'll work until she drops,
An' pound her thumb nails half way off, an' wet her feet with slops;
She'll get so hoarse that she can't speak, an' sore at every bone;
But pa, he says if it was him he'd let the house alone.

An' when that night the kids is sick an' has to have a drink,
An' ma she can't get up because her back's in such a kink,
If pa should bang the furniture whilst gropin' fer the cup,
You can feel him gettin' mad enough to fairly eat her up.

So me an' Jim was sayin', if the time should ever come
When pa an' ma should change their work an' pa would stay to hum,
I wouldn't like to be a boy, but jest a little mouse
To hear what things pa *would* say if *he* was cleanin' house.
—*William Futhey Gibbons in Woman's Home Companion for April.*

✤

Something New

"Anything new this morning?" said the engine dispatcher, as he leaned his back against the cylinder and steam chest for the purpose of warming his vertebral column. "Nothing," said the roundhouse foreman, "except that fresh paint that you're leaning up against."—*Automobile Magazine.*

✤

Don't grumble if you don't get as good results from old material as from new.

Cement Building Construction

Appurtenances to Streets

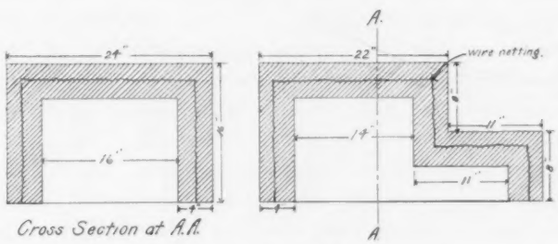
PROPER METHOD OF INDICATING NAMES OF STREETS IN CEMENT SIDEWALKS — HOW MADE AND WHERE PLACED

By Fred W. Hagloch

HAVING described the use of cement in sidewalk and pavement construction we conclude these articles with an outline of appurtenances (fixtures) pertaining to them.

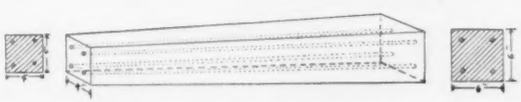
The old fashioned guide posts at street corners are not only a hindrance but unsightly, and while in use in many cities, are not consistent in modern street construction.

In the illustration we show the modern methods of placing street names, viz: Molded into sidewalks in residence streets and against the building in business streets.



Cross Section at A.A.

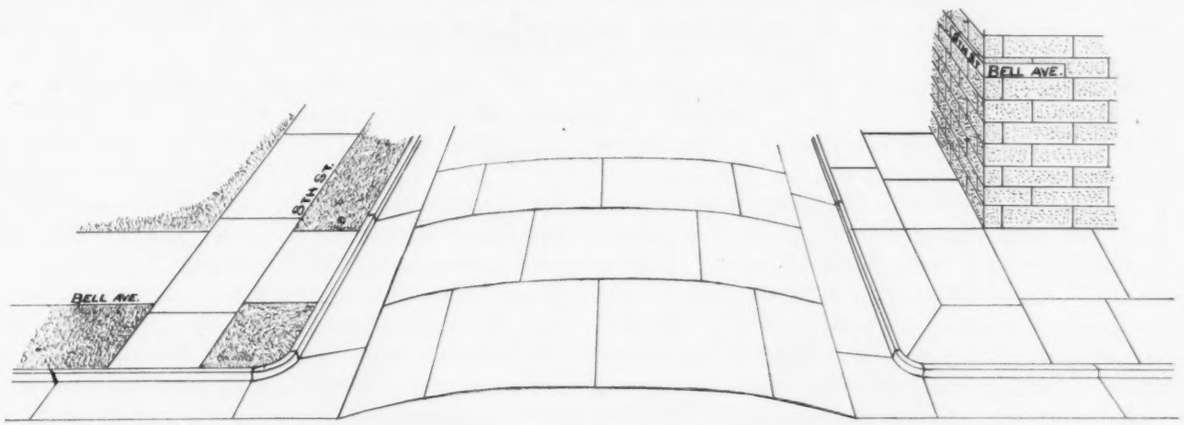
Reinforcing a Carriage Block with Wire netting.



Reinforcing a Post with four No 4 or 6 wires.

In the illustration Bell avenue is in the foreground and Eighth street intersecting it.

The name of a street should always be on the street bearing such name and not within the crossing, for such crossing belongs to both streets. Therefore the name Eighth street is on Eighth street just beyond the crossing line, thus making it plain to any stranger, irrespective as to what is the custom in his native village or country.



Street names molded in sidewalks is done by pressing wood letters not less than 8 inches high into the concrete when troweled, and removed next day, the indentations being neatly filled with concrete mixed with one pound of lamp black to every bag of cement.

The custom of erecting a combination lamp and name post is wrong, inasmuch as the lettering is always in the shade of the light.

The method of building monument like posts of concrete blocks or stone for name plates and lamps is not only a waste of money but an obstruction and should be removed.

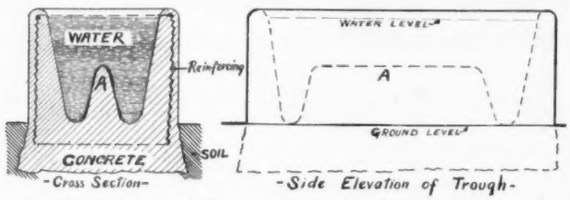
Hitching posts are necessities and should be set back of curb no less than 6 inches; the same applies to carriage blocks and water troughs.

The whole object of any street is that of affording a passage and any unnecessary object should be removed.

In our illustrations we show a reinforced carriage

block, same to be made in box mold and set when seasoned. If possible mold block in position, making it solid concrete without reinforcement. The post shown may be used either with ring and anchor bolt (not shown) or for gas pipe railing connecting to another post about six feet distant.

The water trough placed off the street curb about



six inches is one of the most serviceable appurtenances that can be placed on any street, being low it does not obstruct the view. This trough is molded in position, using temporary plank framing on the exterior only. The reinforcing consists of metal lathing placed one inch from the outside, the top is strengthened with a quarter-inch rod.

The hump A, shown in section, will prevent injury to the trough from freezing as it lifts the ice before spreading the sides of the trough. In connecting supply and waste pipe to cement vessels of this nature I have found it practical to leave the openings and connecting the pipe afterwards, using a sticky cement for filling between pipe and concrete; perhaps the best cement for this purpose is made by dissolving old rubber with benzine or gasoline until it becomes sticky, but Portland cement and melted asphalt is also a very substantial cement for same purposes.

The thickness of the trough walls need not be over two inches for retaining the water, but for durability against outside abuse it is best to make as shown, viz: three inches thick at top and six inches thick at bottom.

The interior of trough must be waterproofed either with Dehydratine, soap and alum, or with shellac, the latter being applied hot and makes rather a dark undesirable surface.

Cement Machinery*

WHAT GOES TO MAKE UP A GOOD CONCRETE BLOCK OR CEMENT BRICK MACHINE — IMPORTANCE OF SECURING A COMPLETE OUTFIT

By J. F. Angell

IN taking up the subject of Cement Machinery one realizes that what has been and what can be or should be said regarding same would make a good-sized book. However, I do not feel that I am capable of "completing the book," nor do I feel that I can add much to what has been broought out on the subject at previous meetings of this kind, neither do I think it would be justice to those assembled here for me to endeavor to make them believe I know all that is to be known about cement machinery, for, in my estimation, there is still so much to be learned it will keep all that are interested very busy for some time.

Some say the experimental point has been passed. It is perhaps true that the matter of the durability of cement products as a building material is no longer an experiment or a conjecture, but how many manufacturers of cement machinery or cement block know or have made an effort to ascertain what is necessary to furnish material that will meet the requirements of the architect or builder, I believe you will agree with me there is a very limited number.

I think I am safe in saying that the majority of those who have embarked in the cement block business never thought for a moment what would be required of them in the way of furnishing blocks of different sizes, designs, etc., but as a rule it was not long before they realized that their patrons demanded something more than a foundation block, making it necessary to purchase additional parts or better machinery, and with this experience no doubt they would advise those anticipating going into business to investigate carefully and to purchase the proper kind of machinery and enough of it to meet the demand.

Generally when an individual or a corporation decides to manufacture cement block, the first thing they do is to write to every cement machinery manufacturer they have ever heard of, or can find advertised in the trades papers, for catalogue and other printed matter. In due time they receive a great number and variety of booklets, setting forth the merits of the various machines, each claimed by its maker as the best and only one on the market that will meet all requirements. In addition to this the would-be purchaser's life is made miserable by agents or the representatives of the different machine companies, and after they get through telling him or them all the superior points of their machine and the inferior points of all others, the prospective purchaser finds himself entirely at "sea," and hasn't the least idea what he wants, consequently he is obliged to adopt some other method, and in thinking the matter over he naturally looks the catalogues, letters, etc., over again and selects a few of the machines that strike his fancy and writes the manufacturers for further information and prices. The prices he receives, of course, vary, and the question of price should always be considered, but it should not be considered at the expense of good product.

A machine should be judged according to its value

*Address made at the Convention of the National Association of Cement Users, held at Chicago, Ill., January 7 to 12.

as a producer. If it is well and honestly made and capable of producing a large variety in the way of sizes, designs and perfect block, it is better and cheaper than a machine that costs less and is capable of producing only one or two size block, and the purchaser will realize this as soon as he fairly gets into the business. It is sometimes hard to make him understand this before he has had the experience, and, as a rule, he is slow to be convinced that the best money he can spend is for a good concrete mixer, to properly mix his material. At the same time it is no trouble to convince him that it is necessary to purchase the best grade of cement, but he will insist that on account of his going into business in a small way, mixing this "high-priced cement" by hand will answer, for the present at least, not realizing that it is impossible to mix the material that way so the amount of cement and sand, or other material, will be the same in each block, therefore making it possible for the block to be criticised, and probably condemned, especially in new territory.

No one knows better than the machine manufacturers how difficult it is to convince a purchaser what is for his best interest, and I feel that in a great many cases the manufacturers or their representatives are to blame. Why? In the first place, I believe we will all agree that no business for years has made the progress or has been brought to the attention of the general public as rapidly as the product of cement as a building material. It has been so rapid and attractive, and the prospects of large and quick returns have been so flattering, that hundreds of inventive minds have been put to work for the purpose of bringing out a cement block machine a little different from some other, and so well has the inventive genius of our great country been brought to the surface, the market is flooded with cement block machines that can be bought at any price, from $5 up to $800 or $900, and in a great many instances the agent is allowed to regulate the price, to the detriment of the manufacturer. And in looking over the vast number of machines it is no hard matter to see that only a limited number of the inventors or manufacturers had anything in mind but the bringing out a machine for the market, thinking it a gold mine, and entirely losing sight of the necessity of producing a machine that will produce material to satisfy the architect and others. We often have people say: "Why are the architects so slow in recommending cement block?" Can we wonder at it when we stop to consider that perhaps not one in fifty inventors or manufacturers even thought it necessary to confer with an architect or builder to ascertain what they want a machine to produce, and at the same time we know that no one is more particular and harder to please than an architect, and he has a perfect right to be, as his business and reputation depend entirely on the work he produces, and we cannot expect any responsible architect to throw aside different material he has become perfectly familiar with for one he knows little about, until such material is given to him in perfect condition and in all the sizes and forms he desires. When this is done I anticipate no trouble in the way of the architect being with us.

A number of manufacturers have put in years of study and energy and any amount of money in perfecting their machines, and have succeeded in bringing them to a point of perfection, and have been rewarded for their efforts to give to the public machines noted for their simplicity in construction and free from complicated mechanism as possible, and while continually reaching out for better means of operation, they never for an instant have lost sight of this point so important to the operator. At the same time it is unfortunate that many a good machine has been condemned owing to the use of poor material and the unbusinesslike method of the operator. For instance, I heard of a case only a short time ago, where an operator had a fairly good machine, but the machine and the blocks he produced were condemned on account of the blocks disintegrating in the center, and upon investigation it was found he made no effort whatever to tamp the material—simply filled the mould box and struck it two or three times with a piece of plank to which a handle was attached, and when he was told he should tamp the material properly, he replied that his was good enough, as it forced all the air out of the block, and no doubt we would find many cases just as ridiculous as this.

We feel, however, that there has been a vast improvement in the past year, both in the manufacture of cement block and machinery. We realize it more every day, as we find those who contemplate purchasing machinery are taking more time in getting information relative to the business and investigating the merits of different machines and making an effort to purchase enough and the right kind of machinery before establishing their plant.

My idea of establishing a cement block plant is to use the same discretion and judgment as is generally used in establishing any other plant. No person or company ever thinks of establishing a brick plant with anything but the best and a full line of machinery, regardless of the cost; and when we consider the cost of brick machinery as compared to cement block machinery, we wonder why there should be any doubt of the advisability of using the same method in purchasing cement machinery, and I would suggest to those contemplating going into the business, and to those now in the business and wishing to enlarge, to spend a little time and money in investigating; call on the manufacturer, see what he has, and give him an opportunity to give you the benefit of his experience, and if he is honest, and has the cement interest at heart, you will

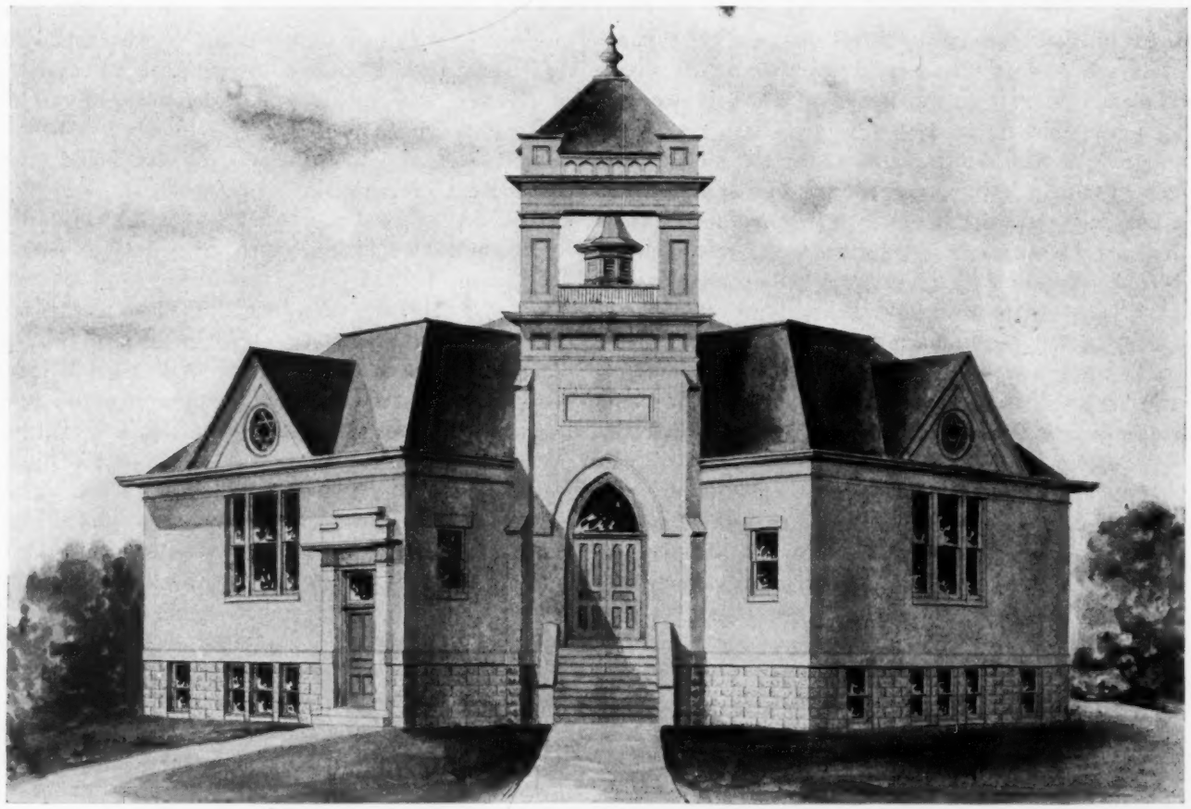
be the gainer. Do not hesitate to purchase good machinery, mixers, cars, ornamental molds, etc., and if you are so situated as to make it possible, establish a steam curing plant. Then make good, honest block, get the confidence of the public, and there will be no doubt but what cement block will be appreciated and you will find it a profitable business, for such has been the experience of those who have endeavored to do business this way.

I might dwell further on this subject, but I feel it would only be imposing upon your good nature and I would probably only repeat what you know and have heard before; besides I feel that the time of this convention is entirely too valuable to be taken up further by me, and in conclusion I hope I may be able to impress upon every member of the association the importance of their putting forth their best efforts in furthering the cement interest, and by practicing what we hear here, the Cement Users' Association will continue to be a success.

A Modern Church Design

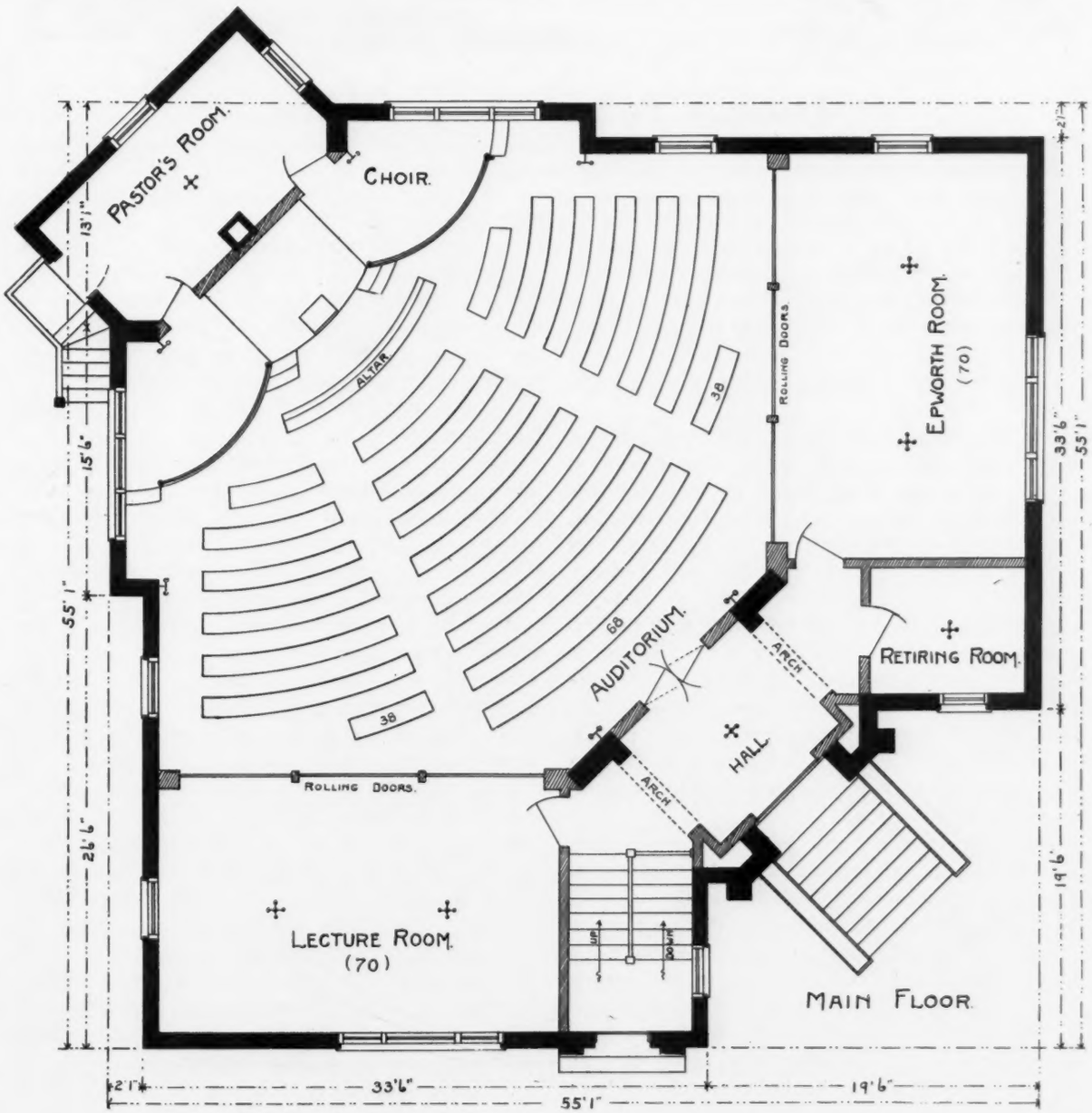
PERSPECTIVE AND FLOOR PLAN OF A MEDIUM PRICED, ARTISTIC CHURCH — ARRANGEMENT OF THE INTERIOR SHOWN

THE perspective and floor plans of the church shown on this page are from plans prepared by Woods & Cordner, architects, of Lincoln, Neb., and are for the Methodist church, recently erected at Julesburg, Col. This is a very striking plan and certainly a very desirable one for moderate size congregation for either city or village. It is out of the usual run of church edifices, both in floor arrangement and external appearance, yet possessing a number of good features not found in the usual church plans. This building was designed for a corner lot and the elevations show the same from both streets, with the exception of a side door, which is nearly at grade. This door can be used for a basement entrance, or to the main floor, there being a flight of stairs leading to both floors and in either case landing in a hall accessible to all of the rooms. The main entrance is facing the corner of the lot and above is the open belfry tower with a neat railing on each of the four sides. The main roof rises to a central peak and is finished with a neat octagonal cupola with ventilating luvers in same, which is here partly shown through the opening of the belfry tower.



The crowning feature of this plan is in the entrance hall as mentioned before, with the main auditorium in front and side rooms on either side are equally accessible. Then too, these side rooms are really a part of the auditorium, made so by rolling partitions, every part of which commands a plain view of the speaker. The main auditorium floor being bowl shape, allows those in the rear to get a better view than they otherwise would with the common level floor.

Then there is the pastor's study just back of the rostrum, with a door on either side. This room also has a side entrance, which is another very convenient feature. The choir can be stationed either to the right or left of the rostrum, as desired. The chimney also passes through the pastor's room, making it convenient to heat without having to depend on the furnace when it is not desired to heat other parts of the building.



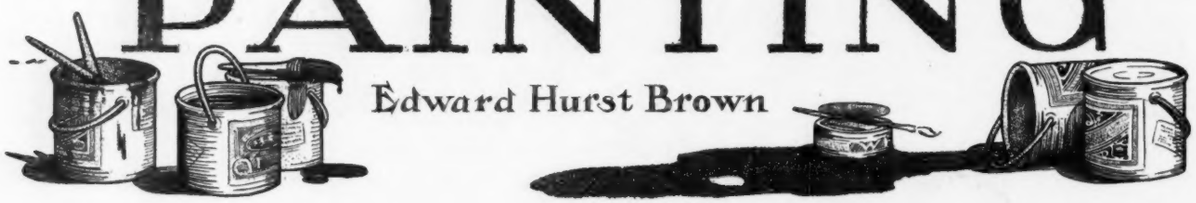
The basement contains a large dining-room, a reception room, kitchen, furnace and fuel rooms. The finish is of yellow pine throughout, stained mahogany color. The basement walls are of brick up to the grade line and cement range blocks from there to the water table, which is also of cement with plain face. The exterior walls are of native brick. The heating is by furnace and the lighting entirely by electricity.

The total cost of this building with art glass windows and seating, was in the neighborhood of $7,500. While this plan may not call for as pretentious a building as some others, it certainly possesses convenient arrangement and church societies desiring to build a house of this capacity will do well to give this plan a careful study before passing it by.

Complete in Every Department

I am at a loss for words to express my thoughts as to the worth of the AMERICAN CARPENTER AND BUILDER to the different trades it represents and benefits. However, I believe that the next four words, "complete in every department," is not putting it too strong. E. KERNS, Cardiff, Ill.

PAINTING



Edward Hurst Brown

Useful Paint Shop Hints

A NUMBER OF HELPFUL SUGGESTIONS FOR THE PRACTICAL PAINTER—WHAT TO USE AND WHAT NOT TO USE

THERE are a good many little practical details that are apt to be overlooked by the painter, and more especially by the carpenter or other mechanic who is occasionally called upon to do a little painting, or who is compelled to paint the houses which he builds or which are under his care, because there are no regular painters in his neighborhood.

Very few men, unless they are trained painters, know how to carry a pot of paint. They are apt to grasp it firmly and swing it with the motion of the hand, like the pendulum of a clock. By doing this, the paint itself sways from side to side and is splashed upon the handles of the brushes that may, perhaps, be in the pot, so that when the painter comes to his work, he is compelled to soil his hands with the wet paint. The proper way to carry a pot of paint is to hold it loosely in the hand. The weight of the paint will then keep it level, on the same principle that a ship's compass always remins level in the binnacle, no matter how much motion there may be to the ship. When carrying a pot of paint, it is well to tie an old newspaper over the top.

Another point, often overlooked, is the proper cleaning of the pot and brushes after the day's work. Brushes are left carelessly standing in the pot, with the result that the bristles are bent so that they become all out of shape and cannot be straightened out again. A good paint brush costs too much to be destroyed for the want of a little care. When the day's work is done, the brush should first be drained as much as possible of its color by being wiped across the putty knife, and should then be rubbed out against a board and pressed into shape and left lying across the top of the pot or on a shelf. The pot, itself, should be carefully wiped down, both inside and outside, and everything left neat and tidy.

There is no greater fault than untidiness in painting. It is only the poor and careless workman who will splash paint over the floor, or over himself. It is better to take a little more time and do the work right. Moreover, not only tidiness, but safety dictates that the painter should wear clean overalls. The rule in most first class city shops is that the journeymen must come to work with a suit of clean overalls every Monday morning. Overalls may be cleaned by boiling them with Gold Dust or with similar washing powders, while a little household ammonia added to the water assists in removing the paint. Painty overalls, thrown in a heap, are apt to catch fire by spontaneous combustion, hence overalls should always be hung up at night where air may be allowed to blow through them.

Never allow cotton rags or waste saturated with linseed oil and driers or with boiled linseed oil to lie about or to be thrown in corners. There is no more easy way to start an unexplained fire.

Benzine, gasoline, naphtha, benzine varnishes, asphaltum varnishes and banana liquid are all very inflammable. Be very careful never to use any of these materials near an open light, nor to draw them from a barrel near a candle or a lamp. Either wait till next day, or use an electric light. The pocket flash lamps that can be made to give a steady light by setting a lever are useful in cases of this kind.

Look carefully into the condition of the ladders, ropes and scaffolds. This is a good season of the year, before the rush of spring work begins, to examine them carefully. A life or limb may often depend on a little caution used now. Ladders and scaffolding will last longer if kept carefully painted.

In burning off old paint, be very careful not to let the flame of the torch creep under cracks in weatherboarding or into other crevices in the woodwork. Many instances of serious fires are on record caused by the careless use of paint burners.

White lead and many other materials used by painters are poisonous if taken into the stomach. It is very essential that the hands should be thoroughly washed before eating or even before taking a chew of tobacco. Otherwise some of the lead may be carried into the mouth, and remaining in the system will eventually cause lead colic. There are certain soaps made especially for the use of printers, painters and others engaged in similar occupations. which dissolve linseed oil and remove the lead from the skin; these are better than ordinary toilet soaps. Washing powders are also useful for cleaning the hands, but are

harmful to the skin. Kerosene is a good softener for dried paint upon the skin. It is also advisable to remove the overalls before eating dinner, even when the meal is eaten at the job. No other mechanic needs to be so careful about cultivating habits of personal cleanliness as the painter.

The removal of old wall paper should always be insisted on before repapering. Layer upon layer of old wall paper, such as will often be found in old houses, affords not only an excellent lodging place for bugs, but it also gives a lurking place for microbes and disease germs. When only one thickness of paper is to be removed it can be done with very little expense. An ordinary garden syringe, such as is used for spraying plants, can be used for the purpose of wetting the old wall paper, and when dampened, it will come off without trouble. Special forms of these spray pumps are made with straps by which they can be carried upon the back. They are run by compressed air, furnished by a few strokes of a force pump. A sponge and a pail of warm water can also be used, but the time required is a little longer. After the paper has been removed from any room where there has been a case of contagious or infectious disease, including consumption, the walls should be thoroughly washed down with disinfectants; such as carbolic acid solution or formaldehyde. They should then be given a coat of glue size before papering.

The spray machine, mentioned above, as used for removing wall paper, is also adapted for applying whitewash or water paints. If much of this work is to be done, considerable saving will be effected by using a machine of this character instead of a brush. When whitewashing or spraying paint around windows, old newspapers or building paper may be tacked up to cover the window. This will prevent spraying the glass and keep it clean.

Beware of recipes given in the women's magazines for making floor wax. The writers are seldom or never practical, and instructions are frequently given for melting beeswax and turpentine together. This should be done only in a water bath, and where the greatest possible precautions are taken against fire. The daily newspapers have recorded a number of accidents due to amateur attempts to make floor wax. While a polishing wax can be made from beeswax and turpentine, in general it is too soft for use on floors that are subject to any kind of hard wear. The painter will find it far more economical, as well as more satisfactory, to use the special floor waxes that can be bought ready prepared. These are made from mixtures of beeswax with paraffine and carnauba wax, in turpentine, and are adapted for the hard use which floors ordinarily get.

It is folly to expect to get pure white lead, pure linseed oil or pure turpentine at less than the prevailing market price. These materials are standards and their values are as staple as corn or wheat. When purchased in small quantities, the price is always higher per pound or gallon than the prices quoted in the commercial newspapers, which are based upon wholesale lots. Unscrupulous dealers will adulterate linseed oil or turpentine with mineral oil or rosin oil, and then tempt the unsuspecting purchaser with a price from one to five cents below the market quotations, offering some plausible excuse as to their reasons for being able to do so. The purchaser invariably pays more than the adulterated article is worth and buys a material which is certain to prove unsatisfactory. Many so-called white leads, offered under names that lead the unsuspecting purchaser to believe he is buying the genuine article, are either largely "extended" by grinding them with barytes or other makeweights, or may even contain no white lead at all. If a painter wants to use a combination of white lead with other materials, it is but right that he should buy it with a full knowledge of what he is purchasing and not under the impression that he is getting something else. To test suspected white lead for purity, the simplest way is to put a small portion on an ordinary coal shovel and hold it over the fire. If it is genuine white lead, the heat will convert it into a globule of metallic lead. This cannot be done with any so-called "combination lead." A similar test can be made by placing a small portion of the white lead, about the size of a pea, in a hole in a piece of charcoal, directing upon it steadily, for a few moments, the tip of the blue flame from a blow pipe, such as jewelers use.

Pure benzine is better for thinning paint than most of the so-called turpentine substitutes. These are very generally mixtures of genuine turpentine or of the turpentine now made by the destructive distillation of wood, with mineral oils that are slow drying or non-drying. Benzine will completely evaporate, with no special injury to the paint, except that, if an excess is used, the paint skin becomes somewhat porous. On the other hand, many of these turpentine substitutes do not evaporate, but leave a greasy residue that prevents the paint from thoroughly drying. The growing scarcity of long leafed pine timber and the manipulations of the market have tended to force the prices of turpentine so high that painters are almost compelled to seek a substitute, especially for certain classes of work. Ie seems better to knowingly adopt benzine and to learn how to use it intelligently, rather than to experiment with so-called substitutes.

It is possible to stir a considerable quantity of water into a white lead and linseed oil paint, without detection. And what is more important, the water will not separate from the oil upon standing but will remain incorporated in the paint. The addition of water will make the paint work easier, causing the brush to slip over the surface, but it is very injurious both to the durability and the covering properties of the paint. It is a trick sometimes made use of by journeymen

painters, when the boss is away, in order to lighten their work, but it cannot be commended from any point of view.

Two different grades, brands or makes of varnish should never be mixed. This is certain to bring trouble.

Adjustable bracket hooks are made for fastening either on the outside or underneath a ladder. By using two ladders equipped with a pair of these brackets. a plank may be supported and will take the place of a swing staging or built up scaffold for painting frame houses or any building of moderate height. Special forms of brackets are also made for supporting planks on shingle roofs.

It is poor economy to attempt to do much painting unless thoroughly equipped with extension and step ladders. Extension trestles are also almost indispensable for interior painting.

When using a swing staging, be sure that the cornice is strong enough to support the weight placed upon it.

A good paste filler is made of ground silex, quartz or other mineral substance (the harder the better) ground or thoroughly mixed with varnish. Fillers are also made of vegetable substances—such as flour, starch, potatoes and the like. These may answer the purpose temporarily, but in the end they will decay and leave the surface of the wood pitted or full of grain marks. To determine the quality of a filler, place a small portion of it upon a piece of hard white colored wood, such as maple, and rub it back and forth with the flat side of a palette knife. A silex filler contains enough grit to cut small particles of steel from the knife, causing a blackening or darkening of the surrounding wood. For this reason, steel wool should not be used on filled woodwork, before it is varnished. All the best grades of paste wood filler are made with silex or some similar substance.

The Tendency of Modern Decoration

GIVING A NUMBER OF IDEAS OF INEXPENSIVE DECORATIONS THAT ARE OUT OF THE COMMONPLACE—APPROPRIATE DESIGNS FOR VARIOUS ROOMS

By Sidney Phillips

IN every branch of decorative art there has been a tendency toward simplicity of form and refinement and delicacy of coloring during the past few years. Contrast, for example, the use of burlap for wall hangings, and the severe simplicity of the modern Mission and Craftsman styles of furnishings with the labored angularity and accented construction of the so-called Eastlake furniture, of thirty years ago, or with the ornate richness of the Empire and the other French styles.

Americans are noted as being luxury lovers, and the time was when we were laughed at for the gorgeous magnificence of our hotels and the overloaded decorations of our Pullman cars. We wanted the best that was to be had; and a generation ago the idea of the best was inseparably connected, in the minds of many people, with that which was the most expensive. Fortunately, we have been advancing in our appreciation of artistic matters and have learned that cost is not always the true measure of value in decorative art. It is not necessary for a man to be possessed of wealth in order that his home may breathe a spirit of refinement and good taste in its decoration. Harmony of color, simplicity and adaptability to purpose may be obtained in inexpensive furnishings and decorations, and always indicate refined and cultivated taste on the part of the occupants of the home. It is not necessary that ornament or decoration should be avoided—far from it—but rather should it be kept in its place. For it must not be forgotten that the walls are the backgrounds to the pictures and furnishings, hence the wall paper, in a room where pictures are to be used or where the wall spaces are broken up by many pieces of furniture, should never be obtrusive in color or pattern. Large, all-over, foliage patterns in self tones (two tones of a single color that appear to vary because of a difference in texture) may form a very pleasing background, whereas the same pattern in strong colorings would be obtrusive and vulgar.

The ordinary wall paper combinations of side wall, ceiling and frieze, such as most manufacturers offer in popular priced papers, even though inoffensive and unobjectionable in pattern and coloring, are usually commonplace. One does not always want one's house exactly the same as that of a hundred others in the town, but we want an individuality that shall make it peculiarly our own. Fortunately the modern wall paper manufacturers are recognizing this fact, and many of the newer papers are particularly well adapted for individuality and novelty in treatment. To obtain it takes more thought on the part of the decorator, and more work, too, but the result fully justifies the expenditure of extra gray matter and extra time.

Many of the floral papers, as well as many conventional foliage papers, are specially suited for what are known as cut out effects; the design being cut out wholly or in part and pasted over a plain paper used as the background; or they can even be used as ornaments for burlaps or grass cloths. For example, a floral paper may be cut out to make a frieze for a cartridge paper, or it may be used as decorations for the upper sections of plain panels, surrounded by narrow mouldings. Shields or heraldic ornaments can

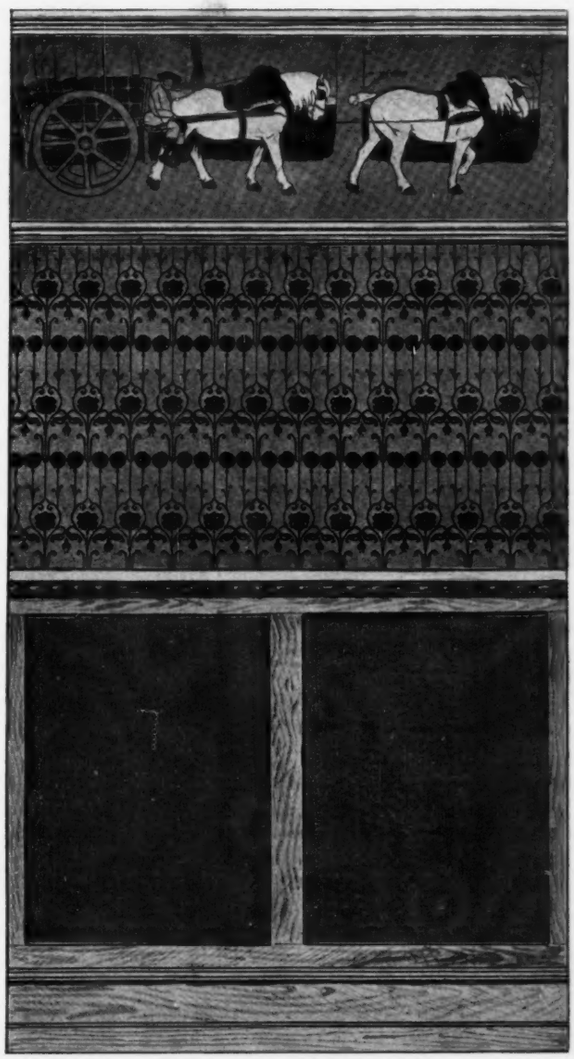


Fig. 1

be cut from a commonplace paper to make striking and effective panel decorations against a plain ground. In producing novel effects of this kind, the ingenuity of the decorator must be brought into play; but he also needs to use considerable self-restraint, lest he overdo it, and spoil the effect by overloading the work. It often happens that many wall papers which, in their original form are almost impossible, offer better opportunities for use in cut out decorations than some other patterns that in themselves are much better.

Some manufacturers of wall paper friezes are now producing large lithographed sheets of animals, printed in natural colors and quite lifelike in their attitudes, though at the same time treated flat, so that they are decorations rather than pictures. These are intended for the decoration of nursery walls, the background being plain cartridge or ingrain paper, burlaps, grass cloths or buckram. The animals are, of course, to be neatly cut out and arranged upon the wall to form a frieze, or they may run diagonally across the wall—a dog chasing a squirrel, or a cat just about to pounce upon a mouse.

The coaching prints and poster prints that one can buy nowadays, offer many opportunities for original decorations of dens or smoking rooms. Under a shelf, running round the room, a series of these pictures framed in by narrow mouldings would prove most effective. But these things should not be employed for the mere sake of ornamentation, but like all decoration should be used only where they will add to the effectiveness of the room, and where they

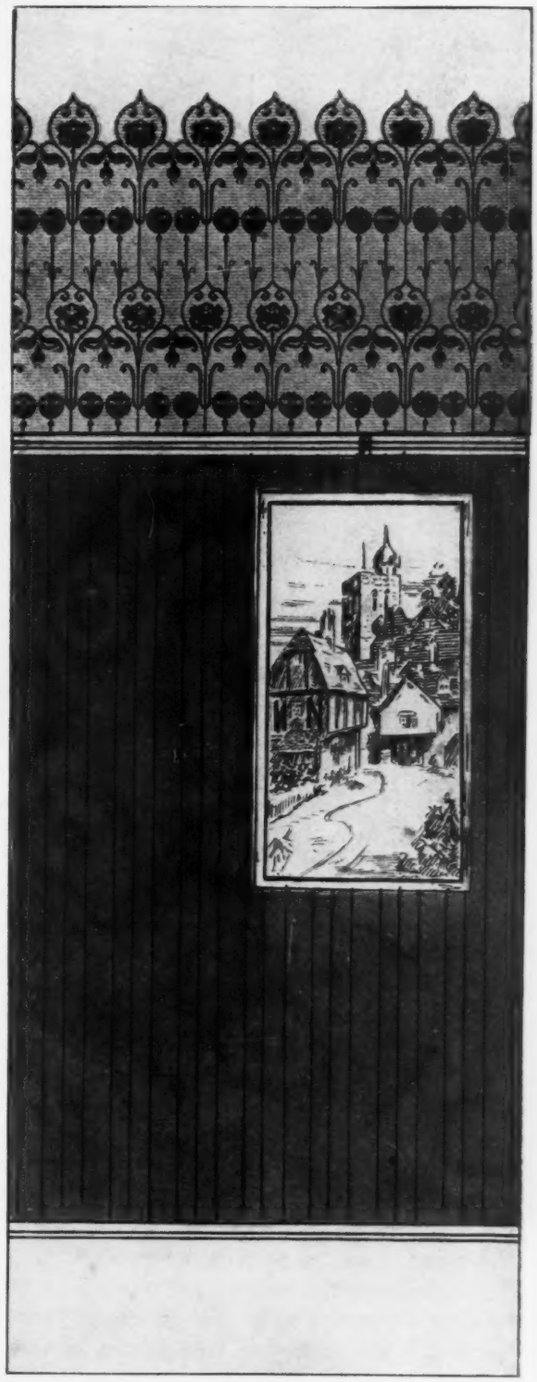


Fig. 2

will not detract from the pictures and the furnishings by serving to make the walls more noticeable than the people and the things the room contains.

Inexpensive Decorations

There is a great demand at the present time for decorations which can be carried out at comparatively little expense and which at the same time are refined in taste and bear a stamp of originality, so that every house will not seem as though turned out from the same mould but each will reflect the owner's taste and ideas. It is necessary to depart at once from the thought of using the commonplace wall papers which one finds in the manufacturers' sample books, where sidewall, frieze and ceiling are shown as a combination. Either one of these may be well enough, when used alone, but when the three are used together, although they may, and quite likely do, harmonize in design and coloring, the result is lacking in that charm which comes only when one can see that there has been an element of personal selection on the part of the decorator or the owner. For this reason, many manufacturers, both English and American, have introduced a large number of separate frieze designs, both decorative and pictorial, into their lines, and have also offered large numbers of what are known as "independent side walls," or "fillers." Some of these are well adapted for running from the baseboard to the ceiling, without break, while other patterns are more especially designed for use as panel fillers or for upper thirds or lower wall patterns, under a more showy and striking design. In using these original treatments, the effect is much improved by the employment of decorative mouldings, put on after the paper or fabric has been hung.

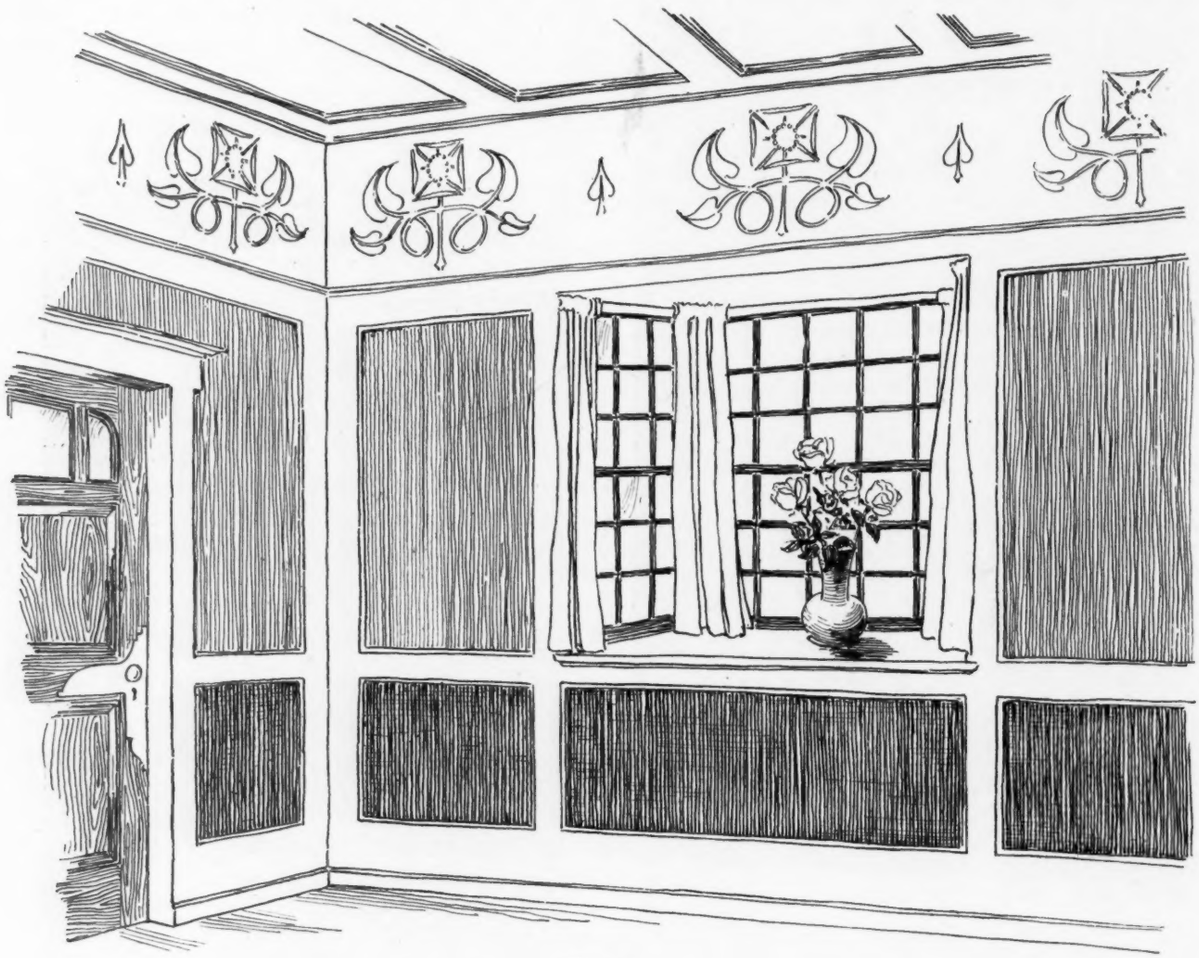


Fig. 3.

Fig. 1 gives an example of a treatment that would be well adapted for a hall or perhaps a den or smoking room. The frieze is an English pictorial pattern known as the "Normandy Market." There are six separate panels in the set, each one different, so that by changing the order in which they come the room might be made to vary round its four sides. The upper portion of the wall is a filler made by a well known American manufacturer, which has proved very popular. Of course, in the reproduction, it has been necessary, in order to show the character of the design, to use a fairly strong contrast in color tone, but in the actual decoration it would be well to select a two tone or clothy effect, since this would give an excellent

background for pictures. The base, which has been divided into panels by flat mouldings, is to be hung with burlaps or buckram or some other fabric. If desired, some relief material, such as lincrusta, anaglypta or lignomur, could be used instead. It might be well to add that, for the sake of illustration, the correct scale of the different sections of the wall has not been maintained in making up this design. But it serves to illustrate a type of decorative work that can be carried out with either these or similar materials. Of course there are many different pictorial friezes that could be employed, varying in width from nine inches to thirty inches, or even more.

Another suggestion for original treatment has been worked out in Fig. 2, where an upper-third paper has been cut out to give the effect of a crown, the plain ceiling paper being carried down on the side walls for several inches. For the sake of illustration, the same filler paper has been used here that was employed in the previous design, but there are innumerable patterns which could be cut out in a manner similar to this. Especially good opportunity for this will be found in all-over scrollage patterns. In selecting a design for this class of work, the decorator must study it to see whether it is adapted to cutting out without too much work. The effect is the thing to be sought for first of all, and much intricate cutting must necessarily be avoided or the work will cost a great deal more than it will be worth. Then again, some designs will not cut to good advantage because they will run to waste. Of course this will not matter so much with a cheap paper, but with a more expensive quality it should be avoided. The lower portion of the wall can be plain, or a clothy pattern. In this case, a plain ingrain wall paper is shown, the lines of the upper-third being carried down to the base board. This can be done by ruling with a striping wheel, a little instrument by means of which any width stripe from a sixteenth to five-eighths of an inch can be rapidly and accurately made.

A scheme of decoration adapted to the hall or living room in a country house is shown in Fig. 3. In this the wall is divided into panels, the dado being a dark burlap—say a dull red. The upper portion is a pale green buckram, while the frieze is a silver gray or an old rose, with stenciled floral designs, having a New Art effect. These same ornaments could be effectively employed upon a background of aluminum bronze, on a burlap ground to give the effect of texture. The ceiling is divided into panels by means of flat beams, the panels being filled with natural colored burlap. The floor, if of oak, should be filled with a deep reddish brown paste filler before waxing and polishing.

These are but a few of the many pleasing schemes of decoration that can be carried out with comparatively little expense, and without requiring the employment of any other mechanics except a skilled paper hanger and a good painter who knows how to use stencils. Very effective stencils can be obtained ready cut, or cut to order from your own ideas, from several concerns who make a specialty of this work, both in New York and in Chicago.



The Canton Foundry & Machine Company have recently supplied the Jas. H. Watson Company, of Bradley, Ill., with a complete metal ceiling plant. This plant is "up-to-date" and a credit to both manufacturer and company.

The Yale and Towne Manufacturing Company has recently awarded to Frank B. Gilbreth, New York, contracts for building extensions to their press shop and cabinet lock department at Stamford, Conn. This press shop extension will be one story high, approximately 80 feet by 156 feet, resting on 40-foot piles, with brick walls and timber roof with saw-tooth skylights. The floor will be of reinforced concrete, designed for a live load of 250 pounds. The cabinet lock department extension will be one story high, 42 by 80 feet, of wood construction with gravel roof, and concrete foundation and retaining wall. The work will cost about $40,000, and is to be pushed forward as rapidly as possible after the inception of milder weather. This is a repeat order and will be the sixth and seventh building constructed for the Yale and Towne Manufacturing Company by Mr. Gilbreth.

Mr. Robert E. Garrick of Philadelphia, Pa., formerly general superintendent with the Unit Concrete-Steel Frame Company of Philadelphia, and more recently with Tucker & Vinton, New York, in the capacity of general engineer, has joined the engineering corps of The General Fireproofing Company, of Youngstown, Ohio.

Mr. Garrick's experience has been extensive in laying out and superintending the construction of reinforced concrete work, and with The General Fireproofing Company his interest will be centered in the sale and installation of Pin-Connected Girder Frames.

The type of the girder reinforcement developed in this product is claimed by The General Fireproofing Company to possess an exclusive feature, in that it provides a complete mechanical tie by a link and pin connection over each column or beam intersection—a tie which does not in any way depend upon the adhesion of the concrete to the steel.

Speaks for Itself

Your paper simply takes everywhere where it is seen and entirely on its own merits. It is its own brilliant orator and a loud one at that.

E. E. WARNER, Farmland, Ind.



Something the Boys Can Make

BEING A CONTINUATION OF THE DESCRIPTION OF HOW TO MAKE A WRITING DESK BEGUN IN LAST MONTH'S ISSUE

THE magazine stand, the photograph of which is shown on this page, was made by a boy of thirteen years after the description given in the first number of the AMERICAN CARPENTER AND BUILDER, April, 1905.

The following is a continuation of the description of the writing desk begun in the March, 1907, number.

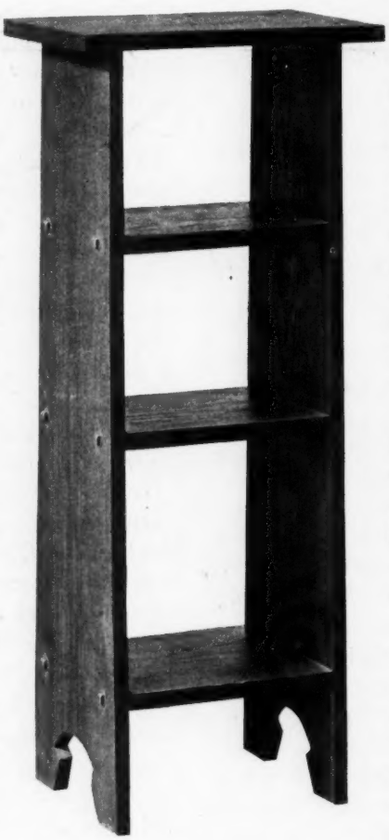


Fig. 1 shows the lid of the desk in one piece. The width on the drawing is indiacted by a question mark, meaning that the lid is to be fitted in place. A fourteen-inch board will be found wide enough. Square one edge and the two ends, then get the width by placing a short stick in position on the desk and marking on it the proper distance. Transfer this to the lid and plane the remaining edge, using the bevel square as described last month to indicate the bevel.

To prevent the lid's warping, if the proper machinery is available, the ends may be fixed as shown in Fig. 6. A three-eighths by one and one-half inch piece is inserted. The sides of the groove may be cut on a circular saw and the rest chiseled.

Another way to stiffen the ends would be to tongue and groove as was described in the making of the drawing board in the June, 1906, number of the magazine.

Fig. 7 shows the manner of placing the hinges on lid and base.

Place the hinges on the lid first. Measure from each end of the lid three and one-half inches and mark with a knife. Place a hinge in position and, holding it firmly, mark around its three sides with the knife. Gauge for depth.

When the lid is open, its edge rests against the edge of the base so that when the hinge is opened out it should rest half and half.

Great care must be taken to have the hinge square with the edge when marking. If it becomes necessary, test the position with the try square.

Where the hinges are of uniform size the gauge, try square and rule might be used.

In chiseling for the hinge, do not make the mistake of cutting on the line the first thing. Make the vertical cuts about a thirty-second of an inch inside the lines and when the opening has been trimmed to the proper depth the chisel may be placed in the knife marks and the sides finished.

The hinge should be sunk slightly below the surface if the edges of lid and base are to touch when the lid is closed. The amount can be determined only by trial. Cut shallow first, then deeper as needed. With an ordinary hinge one-sixteenth of inch lower will be needed.

With the hinges fastened to the lid, hold the lid in its horizontal position, its edge tight against the edge of the base, and mark around the hinges with the knife. Gauge for depth as on the lid and sink the hinges similarly.

A series of slanting chisel cuts where the hinge is to be placed will make the horizontal cutting much easier.

The drawer, Fig. 8, will require, in the rough, one piece of oak, seven-eighths by four and one-half by twenty-eight and one-half inches. This and all other stock should be mill-planed to the proper thickness. For the sides of the drawer, two pieces five-eighths by four by twelve inches will be needed. These may be made of whitewood. One piece of whitewood three-eighths by eleven and one-half by twenty-eight inches for the bottom, and one piece three-eighths by three by twenty-eight inches for the back, should be got out.

Plane all the surfaces just enough to remove the mill-marks. Square the oak front piece to four inches by twenty-seven and three-quarter inches. Five-eighths of an inch from each end, on the back side,

which is the working face, square knife lines across. Gauge on each end, the gauge block being held against the front lines five-sixteenths of an inch from the face. With the tenon-saw, rip and cross-cut to these lines. Place the gauges on the rabbet plane so that

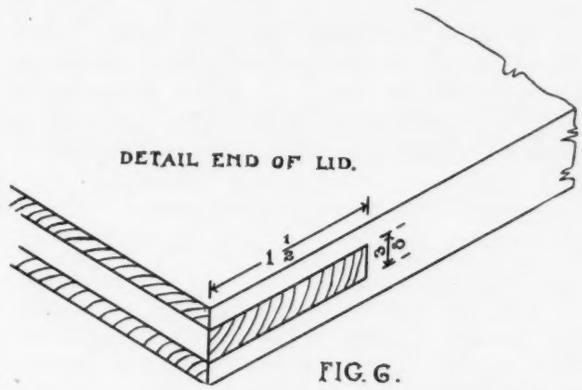


FIG. 6.

it will cut a five-sixteenths inch groove one inch from the bottom edge, on the back surface, to a depth of three-sixteenths of an inch.

Square the end pieces to three and one-half by eleven and one-half inches. Set the gauges on the rabbet plane so that it will cut a five-sixteenths inch groove one-half an inch from the lower edge, on the inside surfaces, to a depth of three-sixteenths of an inch.

Measure one-half an inch from the ends of these pieces and square knife lines across on the inside surfaces. From these lines measure one-half an inch and again square lines across. These lines mark the sides of the gains which receive the back. See that they pair. Saw and chisel these gains to a depth of three-sixteenths of an inch. Where there are many gains to be cut by hand some carpenters tack a straight-edge across the piece along one side of the gain and plane the gain with the dado plane. If machines or hand planes are not to be had the grooves may be cut entirely with chisel, the gauge being used to mark the sides; in fact, the boy who made the desk shown last month cut all his grooves with the chisel. The manner of doing this will be found described in the July, 1906, number.

Square up the back to two and eleven-sixteenths by twenty-six and seven-eighths inches. The bottom should have the same length with a width of ten and three-quarters inches.

Fig. 8 shows the manner of assembling the parts, the sides being nailed to the front and back, but not the bottom.

As the bottom and back are of three-eighths inch stock, while the gains and grooves are five-sixteenths, it will be necessary to plane on the under and back sides, at the ends of the pieces until they enter. This insures a fit though the stock may vary slightly in thickness.

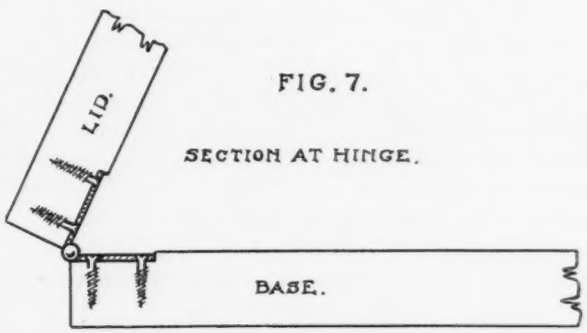


FIG. 7.

Fig. 9 shows a side of the drawer fastened to the front with a half-blind-dovetail joint. This joint is rather difficult to make, and lack of space forbids its description at this time. It will be described later.

Fig. 10 shows the joint just described.

Fig. 11 shows a joint which is an improvement over that of Fig. 10. To make this joint, set the

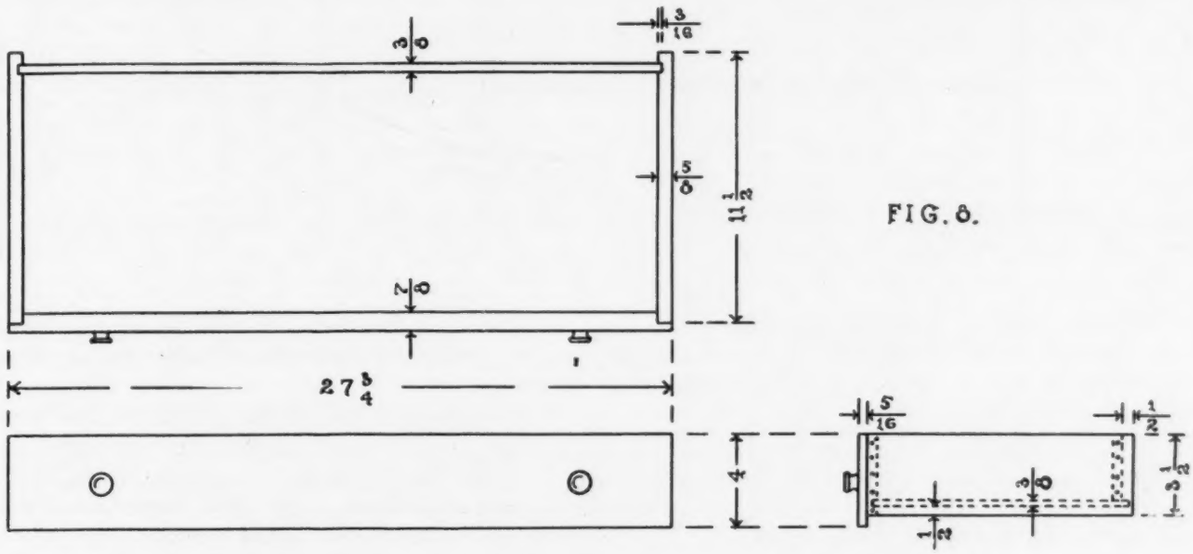


FIG. 8.

gauge to three-sixteenths of an inch and gauge the ends of the drawer front, keeping the gauge block against the working face, which is the inside surface. Again, set it to nine-sixteenths and gauge the ends from the working face. Chisel this groove to a depth of five-

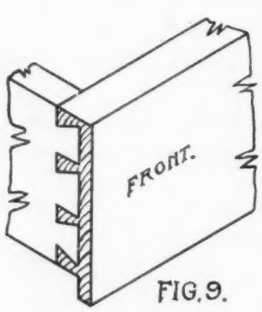


FIG. 9.

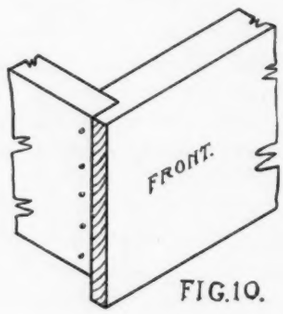


FIG. 10.

eighths of an inch. Now saw away the thin tongue so that it shall be but three-sixteenths of an inch long.

The drawer sides must next be gained to receive the short tongue just formed. Gauge across the inner, or face surfaces, a line three-eighths of an inch from the end—or better, providing the ends are perfectly square, use trysquare, rule, and knife. A second line three-sixteenths of an inch further in will indicate the remaining edge of the gain. Chisel to a depth of three-sixteenths of an inch. This joint may be glued up or it may be nailed with light brace.

Fig. 12 gives the front and side views of the compartments. All stock is to be of three-sixteenths inch whitewood millplaned on two surfaces.

The plan, or arrangement shown, is merely suggestive. The best arrangement will depend upon what is to be kept in the desk.

It will be noted that all ends are gained into the pieces they join. As the ends cannot be planed beveling to make a fit, the gains must be cut accurately and of full width, a depth of one-sixteenth of an inch being sufficient. Use glue and brads to fasten the parts together.

Stain all the oak with a medium dark water stain. Sand lightly with number oo when dry, just enough to smooth the grain which has been roughened by the stain. Apply a medium dark filler, following the maker's directions. Two coats of floor wax, or beeswax mixed with turpentine, well rubbed, will give a good finish.

An extremely light coat of shellac applied just before the wax and allowed to dry will aid greatly in "bringing out" the beauty of the grain. Much mission furniture is never waxed at all, the light shellac giving the final finish.

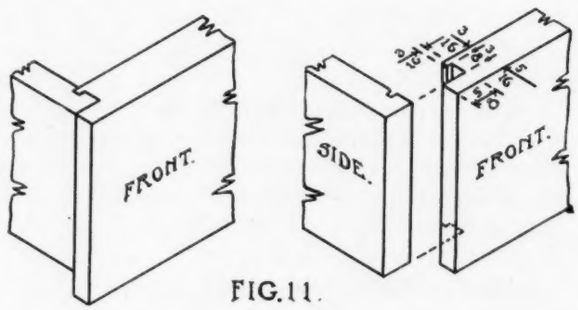


FIG. 11.

After the body has been filled, the back, mentioned last month, may be nailed in place. The board should be thoroughly sanded and cleaned before being put on.

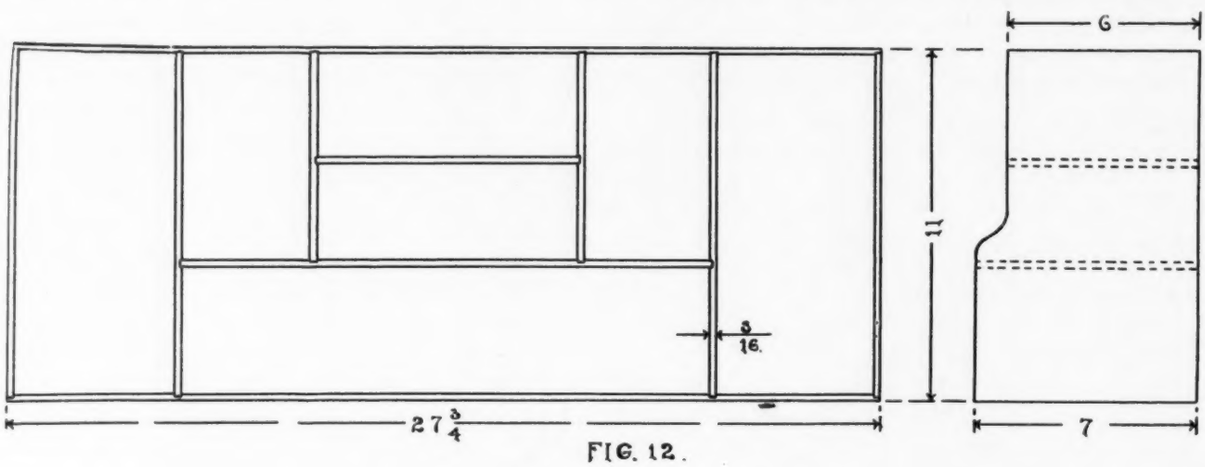


FIG. 12.

The essential thing, however, is to keep the length twenty-seven and three-quarters inches and the height eleven inches to insure the compartments being placed within the desk easily.

It is intended that the compartments shall have sides, top and bottom independent of the desk walls, but that the whitewood back of the desk shall answer as well for the back of the compartments.

Shellac the whitewood of the back and of the drawer as well as of the compartments with two or three thin coats.

The compartment may be fastened to the base with two light brads when all finishing has been done.

The pulls for the drawer can be got at the hardware dealer's. Those on the desk shown last month were brass knobs with machine screws.



Speed and Power for Saws

To the Editor: Blakeslee, Pa.

I am a reader of your valuable paper and would like to have a little information. I am about to purchase a gasoline engine and would like to know what size to purchase to run a 26-inch saw to its full capacity. I am going to saw plastering lath, and the stuff will be four feet long and such thickness as the 26-inch saw will cut. Would a six-horse power be large enough, or would you recommend a larger one? If so, what size? Also what is the proper speed for a 26-inch saw to run at; also the proper speed for 10-inch saws?

IRVINE C. HANNA.

Answer: A six-horse power engine should be heavy enough to drive a 26-inch bolting saw, but if you desire to use this bolting saw and a gangsaw at the same time, you might find it light. The proper speed for a 26-inch saw is approximately 1,000 revolutions a minute. On this same basis it would take 2,500 to 3,000 revolutions for a 10-inch saw. The power required in all cases, of course, depends on how rapidly you expect to handle the work. You can probably get very good service out of a six-horse power engine, and you will likely find it more economical in the end than to use a 10-horse power engine. J. CROW TAYLOR.

Making Window Frames

To the Editor: Fountain, Mich.

I have read the article by Dwight L. Stoddard on "Making Window Frames" with great interest and will give my ideas on the same. Buildings here are of the common kind, mostly of wood and frames are of the common kind. In the first place I like a 2 by 8 for sill and do not use any sub-sill and give the sill a 9-degree slope. I dado the sill into the side jambs a little farther than the parting strip groove and set the ends of the sill in white lead so that water cannot get down the parting strip groove. I do not put trimmers at the bottom of small windows but let the jamb hang down below the sill, cut out enough on outer edge of joint below sill so that it will hook over sheathing without binding and the dado will hold the sill in place. I never tried nailing sills on to the end of jambs. I cut the top jamb the same length as the sill and dado the same. If some one has a better way please criticise mine as I am on the lookout for anything that is new to me and practical. H. PERRY.

A Good Investment

To the Editor: Trenton, O.

While talking with one of the boys about the AMERICAN CARPENTER AND BUILDER, he asked me how I ever got on to anything like that and said that more of the boys should read it. I have been in the carpentry business for six years. There was one thing that I could not catch on to and that was roof framing, as good as I should. One day I asked my foreman how he got that and he said, "Don't you know that?" and laughed. He then said he had for fifteen years been learning the trade and advised me to take the AMERICAN CARPENTER AND BUILDER. I took his advice and in the second number I found what I wanted to know. GEORGE C. HOUSE.

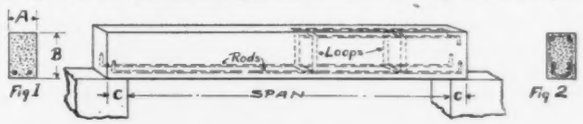
Making Reinforced Lintels

To the Editor: Galt, Ont., Can.

I have some Portland cement lintels to make. The opening is 9 feet and 6 inches wide. Lintels have to be 14 inches high and 6 inches thick, and made of one part cement to two parts sand, and to be reinforced with barbed wire, but I don't know how many strands should be put into each. There is about 2,000 pounds of distributed load on each. How many wires do you think should be put into each to make it safe?

D. R. M.

Answer: Barb wire is an uncertain reinforcement; old rusty wire is worthless; galvanized wire is only about 60 per



Steel has 16,000 lbs tensile strength per sq. in. Concrete has 350 lbs. tensile strength per sq. inch.	2 Rods ½ Diam. A=5"-B=8"-C=4"—Fig 1	2 Rods ½ Diam. A=8"-B=8"-C=6"—Fig 1	4 Rods ½ Diam. A=8"-B=12"-C=8"—Fig 2	6 Rods ½ Diam. A=16"-B=12"-C=10"—Fig 2	8 Rods ½ Diam. A=12"-B=12"-C=12"—Fig 2	Divide Safe Load by length of Span for Load per lineal foot. Span must not be 14 times greater than height of beam or lintel.
SPAN	4'-0"	6'-0"	8'-0"	10'-0"	10'-0"	
SAFE LOAD	12.000 lbs	24000 lbs	35400*	46200*	55600*	
SPAN	6'-0"	8'-0"	10'-0"	12'-0"	12'-0"	
SAFE LOAD	10.500	22600	33700	44500	52900	
SPAN		10'-0"	12'-0"	14'-0"	14'-0"	
SAFE LOAD		20900	31400	43.000	49900	
SPAN		12'-0"	14'-0"	16'-0"	16'-0"	
SAFE LOAD		18.800	29800	41700	47000	
SPAN					18'-0"	
SAFE LOAD					44000	
SPAN					20'-0"	
SAFE LOAD					41.700	

cent. as strong as common annealed wire. While the barbs and twisted strands greatly assist in forming a bond with the concrete, the same results are accomplished with new smooth wire by letting it rust for a few days and cleaning with a wire brush before placing in concrete.

The strength of the wire is more or less injured by the barb wire machine, therefore very uncertain for reinforcing concrete, even under severe inspection.

The accompanying illustration and table based on round rods for reinforcements may be used with safety, and if barb wire is desired, then let the weight of the wire exceed the weight of rods at least twenty per cent. One-fourth-inch rod weighs one pound to every 18 inches of length, and one-half-inch rod weighs one pound to every four and one-half inches in length.

The loops shown should be used on all work of Fig. 2,

and should be of strap iron or No. 4 wire, equal to the same weight per foot as the rods used. Loops should be spaced no further apart than twice the height (D) of beam or lintel.

Use ten-foot span in table for 9-foot-6-inch openings, as it is nearest safe length, and as 6 inches is lighter than is generally used I advise using 6 rods, same as in 10-inch-wide, and take only three-fifths of safe load, which on 10-foot span is 45,200 pounds, which is certainly a safe calculation, and should you require only half this load, or 22,600 pounds, then leave out one-half the steel specified. FRED W. HAGLOCH.

Constructing an Octagon Corner

To the Editor: Weston, Ore.

In Fig. 1 A is an octagon corner. Rip a two-by-four at an angle of 45 degrees, as shown in section D. Then spike A on the stud as at A, and B as at B. Then fit four blocks

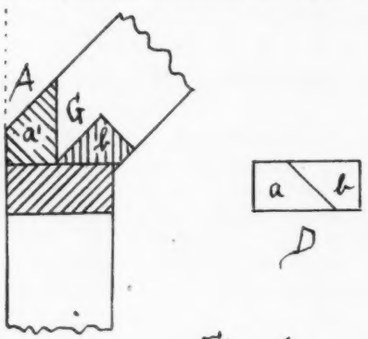


Fig. 1

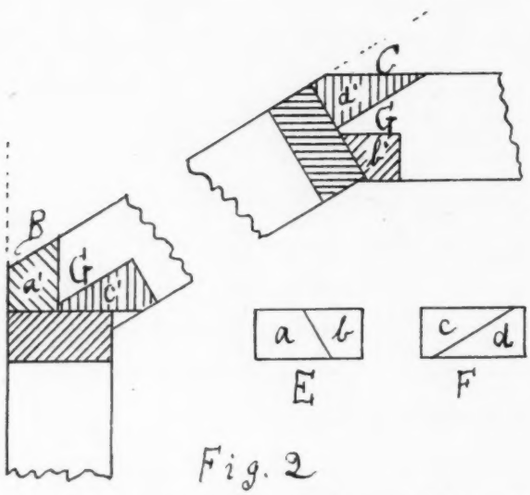


Fig. 2

in space G, in a ten or twelve-foot story. This makes a substantial corner. The reader will notice that any other than a 45-degree angle takes two differently shaped pieces; hence in Fig. 2, E is ripped at 60 degrees and F at 30 degrees, because B is 60 degrees and C 30 degrees, and put together as shown. As there are usually two or more angles in the oblique-angled parts of buildings, there will be no waste of labor or material. S. T. GORE.

Guide to Gas Engine Selection

To the Editor: Bremen, Ind.

I am considering a gasoline engine for my carpenter shop. Can you refer me to a book or some authority of some kind that I can decide what kind of an engine to buy? I want one that is economical in the use of fuel, safe, simple, durable, and not likely to get out of repair. To read the circulars of the manufacturers of engines, each one has the best if they differ vastly on the same point. For instance, a 2-cycle engine is claimed to be the best by people that make them, and the people that make a 4-cycle claim the 2-cycle is no good and their's is the only thing that goes. If you can refer me to any authority on gasoline engines, please do it. As for your journal, it is getting better every issue. I will send an article on barn framing, in the near future, for the correspondence department. That is what makes a trade paper interesting for me—short, snappy articles explaining short-cuts in actual work is what we are looking for.

J. L. TEGHTMEYER.

Answer: There are a number of gas engine books, but most of them pertain more to the care and handling of gasoline engines than to their selection. Among the books of this class I might mention The Practical Engineer and Plain Gas Engine Sense, which you can get from the Gas Power Publishing Co., St. Joseph, Mich.; also a book entitled Gas Engine Troubles and Remedies, which you can secure from the Gas Engine Publishing Co., Cincinnati, Ohio.

Probably the best way to go about selecting a gas or gasoline engine is to take the matter up with two or three reliable concerns making these engines. Explain just what you want, and in this connection, too, when you come to make your selection, bear in mind that the first cost of an engine is not as important as the cost of its operation. In other words, it's cheaper to pay more for an engine that will use a smaller quantity of gasoline per horse power than it is to pay less for an engine that will use more. The two points I would watch for if I were selecting an engine of this kind would be economy in gasoline and simplicity of construction in the engine. To this might be added strength, but generally strength and simplicity go together. It's the more complicated engines that develop weakness, because of their complications. J. CROW TAYLOR.

Suggestions by a Member

To the Editor: Dallas, Ore.

I am going to ask some favors of you and I trust they will be of sufficient interest to your other readers to warrant you in granting them and acquitting me of selfish motives in requesting them.

First I wish you would induce Mr. Alfred W. Woods, either by threats or otherwise, to give us an article showing how an architect goes about it to design an ordinary house; what, aside from any set general dimensions influences him in his work; how he secures harmony of proportion, etc. Of course, I do not mean to ask for a full course of architecture, but it seems to me there is much he could tell in a general way that would be of great value to any carpenter who wishes to design the general run of houses without altogether violating the accepted rules of good taste and marring what should be creditable. Mr. Woods' article on "Proportion" in the October issue was most acceptable and valuable, and I feel that he has much more to tell that will be equally so. For example, I would be glad if he would tell us how the Ancients arrived at their basis of proportion, how they used the module, and how these things can be put into practical use today.

Mr. Stoddard's article in the December number was good. Let us have more of them. Mr. Edward Hurst Brown is a good writer as well as a good painter, and his articles are the best I have ever seen on the subject he handles. Will he be kind enough to give us a separate article on finishing wood carvings, etc.? Will Mr. Sidney Phillips please tell us how to arrive at the proportions of frieze, dado, wainscoting, etc.,

for a given height of ceiling and size of room? Mr. Ira S. Griffith understands the art of making things plain (as well as plane), which is a rare quality indeed and one worthy of praise. I hope in the future he will not be afraid to repeat himself when the occasion requires, as it is well to bear in mind that new subscribers and readers are continually being added, and where one cannot get back numbers, it is disappointing. Will he sometimes give us the dimensions of a roomy Morris chair?

Now I hope I have not asked too much, but I want information, and the only way to get it is to ask for it. What I have asked may be perfectly clear to your other readers, but I sincerely trust there are others just as ignorant as I am.

Wishing you and your associates the compliments of the season and the AMERICAN CARPENTER AND BUILDER a successful forthcoming year. J. R. MILLS.

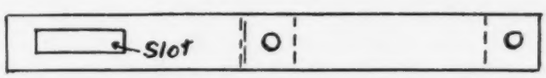
Staging for Concrete Buildings

To the Editor: Cocoa, Fla.

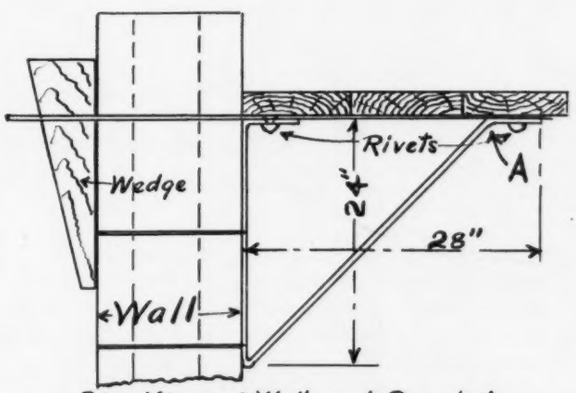
I wish you would mention in your valuable magazine the best way to erect staging around concrete buildings for masons, etc. Also about how much cement mortar it takes to lay a given amount of standard concrete stone.

W. E. BOOTH.

Answer: Staging that can be quickly placed and removed, and be absolutely safe, is a desirable article, and the sketch shows the best we have ever seen. It is made up of a series of iron brackets made of one-fourth by three-inch flat bars, riveted as shown, the slot being one by six inches, and placed on the wall about six feet apart, after which one course of blocks is placed upon them and hardwood wedges driven into the slots and the plank placed when it is ready for use, but must not be loaded heavier than the weight of blocks on the irons; thus the higher the wall



Top View of Bracket.



Side View of Wall and Bracket

the safer the staging. Much strength is added by bracing from the ground at A by means of studding. Two sets of brackets are required, thus allowing the setting of the next set of brackets before raising the plank.

To remove, first free from plank and drive wedge upward, and with hammer drive slotted end through wall. The opening left in mortar joint can be readily filled from ladders. This is not the safest staging, but with ordinary care no accident need occur.

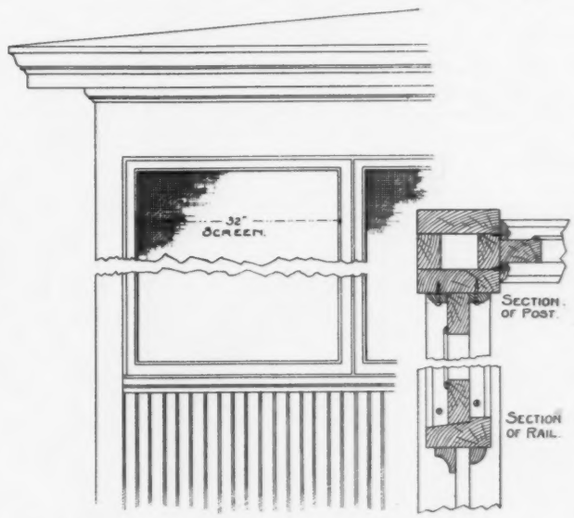
The amount of mortar required per 100 square feet of hollow block wall is governed by thickness of mortar joints, varying from one-eighth to three-eighths inch; also size of blocks used and proportion of cement, lime and sand the mortar is made of. The following example may enable you to determine the amount your work will require:

One barrel cement, four barrels sand and 100 pounds lime will make sufficient mortar to lay 190 blocks 8 inches high, 24 inches long and 8 inches thick, with quarter-inch mortar joints; but some masons waste a half more mortar than others. FRED W. HAGLOCH.

How to Build a Screened Porch

To the Editor: Colby, Wis.

Can you give us some details for the enclosure of porches with screen? What we would like to know is, whether there is screen made wide enough to cover the height of the porch in one piece, or is it better to have the screens



in sections, and how is it customary to fasten same to top and bottom? Any information will be greatly appreciated.

PERSCHKE BROS.

Answer: The widest screen that is carried in our market is 48 inches, but would not recommend using so wide a screen, as it should be supported with crosspieces, anyway. Would recommend using frames about the size, or width, as required for an ordinary window. Would use regular stops put on with round-headed screws. The frames can be easily removed in the winter time and solid panels made of ceiling can be set in their place, if desired. A few panes of glass set in these panels will give sufficient light and thus make a very efficient storm door enclosure. The accompanying sketch shows about as good a way as any for the construction of a porch of this kind. A. W. WOODS.

Proper Method of Shingling

To the Editor: Gillette, N. J.

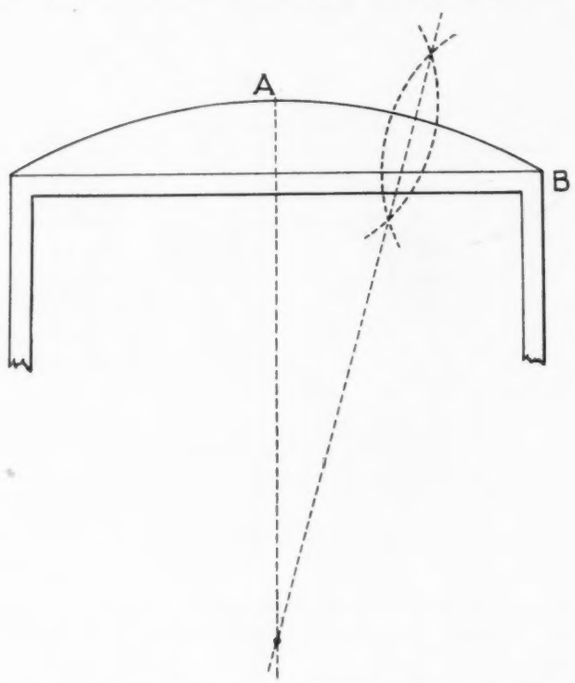
Why do we hear so much about leaving a small space between shingles so they will not swell together and warp? In my twenty years experience I have found that the closer the shingles are fitted and laid together the longer the roof will last, and that they never swell to cause them to warp. There is a building near here that the architect had all the shingles jointed so the edges were parallel before they were taken to the roof, and each man that laid the shingles was required to have a plane and use it on all the shingles

where it was necessary to make a perfectly tight joint, and these shingles never crowded each other at all. About a year ago, at the commencement of a house, the architect took dry shingles about a foot wide and placed them in water and measured their width every day for a week and could find no increase in their width. I have often seen a few warped shingles on a roof, and on investigation found that these were cross-grained shingles, affected by the sun.

I should like to hear from some one who has had a different experience. T. W. STREETER.

How to Equalize Segment Heads

In the January number, in answer to a question, we published a diagram for a segment head opening. The illustration showed that the part taken was one-sixth of a circle, which, in that case, the radius is equal to the opening. How-



ever, it does not necessarily have to be the above proportion. But we believe this makes the best proportion, and in the absence of other specifications, is generally understood and is easily arrived at. But the question has been raised: Suppose there are different widths of openings in the same wall. Then, of course, they should be equalized by giving the different segments the same rise, or height, and the proper curve may be found by the bisecting line between the rise and the corner of the opening, as shown in the diagram at A and B; where this line intersects, the center line will be the center from which to strike the arc.

A. W. WOODS.

Finishing Various Woods

To the Editor: New Harmony, Ind.

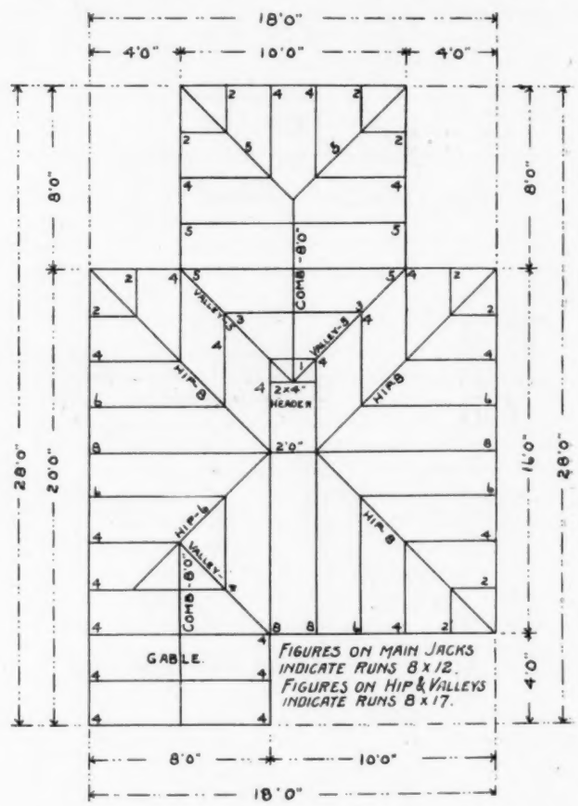
I am making a checker board out of the following woods: White oak, maple, cherry, black walnut and black persimmon. As I am not experienced in the proper finish of woods, I would like you to fully explain the best method of finishing the above board. CHAS. E. COOK.

Answer: The first thing to be done after sandpapering well is to fill the wood with a paste wood filler, rubbing it well into the wood across the grain with burlaps before it has had time to set hard, and then wiping it off with a soft cloth to remove any traces of filler that may be left on the surface. Allow this to become dry, then sandpaper smooth, dust off carefully and apply several thin coats of denatured alcohol shellac, allowing each one to dry, and sandpapering between coats. After four or five coats have been applied it can be polished with a mixture of half sweet oil and half alcohol, rubbed on with a circular motion by means of a piece of raw cotton or a piece of rubbing felt tacked over a smooth block of wood. The filler should be allowed to dry for two or three days before applying the first coat of shellac, and for best results at least twelve hours should elapse between shellac coats, though less time can be given if the work is hurried. White shelllac should be used to avoid discoloration of the wood. Another way is to use one of the hard wax polishes, such as are used for floor and furniture finishing. This is a pretty finish but requires more care to keep in good condition than shellac. EDWARD HURST BROWN.

Framing Hip Roofs

To the Editor: Red Oak, Ia.

For convenience we will take 12 on blade, 8 on tongue on outer edge of 2 by 4 long enough for main rafter. Mark across stick at 12 on blade for heel cut. Make straight mark at 8 on tongue. Now place 12 on the 8 mark and mark at 8 again. Continue this as many times as half the span of roof you are framing. Example, if span is 24 feet 12 times, etc., mark the 12 run clear across stick, which will be the required length for longest rafter. If a ribbon is used at the top, take off half of thickness. Use this as a pattern



for all common rafters. Mark every other run beginning at heel 2-4-6-8, etc. If main rafter sets one foot from the hip, take off 2 runs and continue to take off 2 from each set on down until all jacks are cut, using pattern in all cases. This

is done for the reason that any variation in pattern will also be in balance of rafters and will make no difference.

To cut hips and valleys, take 17 on blade, 8 on tongue same number of runs as pattern one-half thickness ridge board off. To procure side bevel for jacks measure across diagonal from 12 to 8 with rule, which will give you 14 7-16. Take 14 7-16 on blade, 12 on tongue, mark on blade 14 7-16 side set bevel square to this mark and use for all common rafters. Divide half way between 14 7-16 and 12, which is 13 7-32. Take 13 7-32 on blade 12 on tongue. Mark on blade 13 7-32 gives side bevel for hips and valleys. For cutting cripples from valley to hip use square same as common rafter, measuring from long to short point. Bevel same as jack rafters. Plumb cut is used on both heel and top of these cripples. Take 14 7-16 on blade, 12 on tongue, mark on tongue cuts sheathing to fit hip and valley. Also plans for valley when same lays with pitch of roof. Take 14 7-16 on blade, 12 on tongue, blade gives cut for hip and valley shingles.

Place square on shingle same as if it were a board (not on end).

If framing a roof with a look-out on end of rafter, draw a line through stick full length the width you desire for look-out and proceed by placing figures on square on this marked line same as on outer edge of stick with no look-out.

The above rule will apply in any ptich. Always use 12 on blade and any number 2-4-6-8-9-10-11-12 or any fraction on tongue for common rafters. Take 17 on blade and the same number of runs as on main rafters gives length, hips and valleys with the same run. Measure across diagonal on square same as above to obtain side bevels.

For framing 16-inch center cut each set of jacks 1 1-3 runs shorter. J. M. Hibbard.

Oil Cloth Paper

To the Editor: Santa Rosa, Cal.

I would like to know where the oil cloth wall paper is manufactured. If you can give me any information I will appreciate it. I do not see it advertised in your columns. It will be a good thing for this country and I could handle it with my work.

Answer: There are two materials made like oil cloth. One known as "Leatherole," is embossed and closely imitates stamped and embossed leather or high-class pressed papers. The other, known as Sanitas Washable Wall Covering, is made like table oil cloth, but is dull in luster and closely resembles wall paper. Both of these materials are made by the Leatherole Company, 24 East Twenty-second Street, New York City. Edward Hurst Brown.

Concrete Roof Construction

To the Editor: Limerick, N. Y.

Please inform me through the columns of your magazine (the best magazine in the building world) if it is practical to roof concrete buildings—such as hog and sheep pens—with cement? If so, give formula for making the mixture where lake shore sand and gravel is used. Give thickness and manner of reinforcing for roofs with a span of 15 to 20 feet, on the supposition that the form will be removed after the concrete has become hard. F. B. Dwelly.

Answer: The thickness necessary for a roof to span 20 feet would be over five inches, therefore its cost and weight would condemn it.

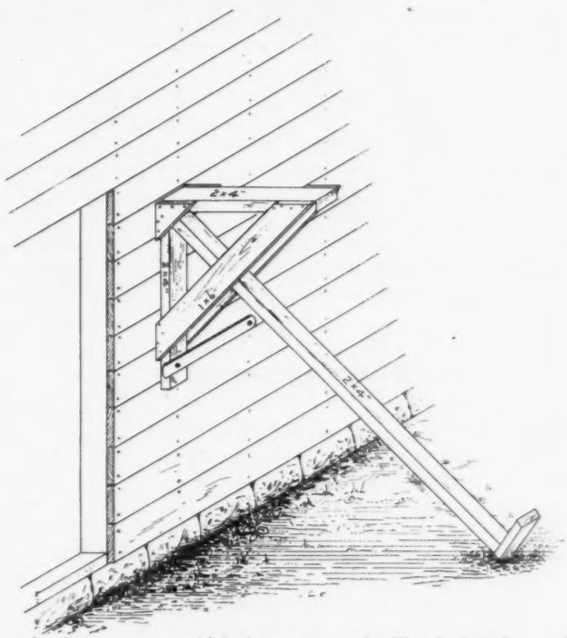
Use 2-by-6 or 2-by-8 rafters, space 16 inches apart and cover with expanded metal lathing or wirecloth. Apply concrete (one part cement, two parts sand and three parts pea gravel) to the depth of three-fourths of an inch. Plaster the under side so as to protect the metal from rusting.

Various methods of waterproofing roofs have proven successful, viz., Dehydratine and R. I. W. paints; Ironite, if red roof is desired, and the Sylvester process of soap and alum. F. W. Hagloch.

Making Scaffold Bracket

To the Editor: Clyde, Kan.

In reviewing some of the back numbers, I ran across a sketch of a scaffold bracket, made and used by Mr. Chas. M. Gates, Girard, Ill., which appeared in the January number,



1906. I have one which is very nearly like it but I use it in a different way as you will see in Fig. 1. First take the bracket and set it against the wall and insert two by four in bracket and raise it according to the height you want the scaffold. Set end on ground (see Fig. 1) and drive stake in solid ground. John B. Lagesse.

Suggestion by a Member

To the Editor: Oakville, Ont., Can.

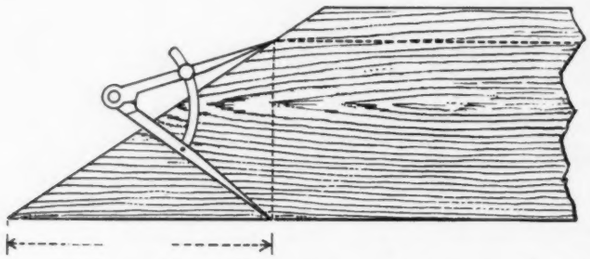
I would like to suggest a plan to get all the readers of the American Carpenter and Builder that can, to take a week next summer and visit the great fair at Jamestown, Va. Call it our "Special Week"; get a reduced rate on all roads and each one to wear a neat badge which could be procured for a small amount. Let us go twenty thousand strong and get to know each other, exchange ideas and have a good time for a week or ten days in that historic place. Will you think this over and find out what the other members think of it, and start the ball rolling?

I wish the American Carpenter and Builder and all its readers long life and prosperity. J. MacKinder.

Cutting Siding for a Gable

I notice an article in the December number on cutting siding for a gable. It interested me very much, because I use a similar method. My way is to cut a pattern for the first siding and the setting a bevel to the pitch of gable, or pattern, marking and cutting on one end a sufficient quantity of boards to cover the gable. I then find

the exposure to the weather by running the space with the dividers and by placing the dividers on the pattern, as shown by the sketch, and squaring down from this point find how much shorter each board will have to be. The boards are then stacked edgewise on the trestle with



the pattern outside, and by using a two-foot rule I slip each board back the proper distance, then squaring across the thick edge of the entire bunch. I then use the bevel and cut these ends. In running a gable with a window in it, slip back each board just half of what a plain gable would require. In nailing on the boards, use the dividers to space the square end only, as the other, or bevel end, will be sure to find its proper place—if the measurements have been accurately taken. JAMES A. REICHEL.

Fire Resisting Walls

To the Editor: Seneca, Kan.

Our city council has sent to Massachusetts to have arches made, moulded in five pieces for the front of the boilers at the electric light and waterworks plant. I set one of them two months ago. They are not giving satisfaction. Have put in several fireclay brick arches at different times. Now can I put in an arch that will stand for a reasonable time of cement (by using forms) sand and cement 10 per cent. more cement than enough to fill voids, mixed same as building blocks, well tamped, kept wet for three or four days? The face gets very hot in use, the draft is back (no soot). Would heat from other boiler hurt setting? Perhaps could more properly be called a front than arches. Will send dimensions with this. G. E. BARNEY.

Answer: Electric light plant boilers, which are fired only part of the time each day, are more severe on fireclay brick than any other, as the cooling off and reheating is very hard on the best material. I would advise you to send a sketch to Holden's Fire Brick Works, Mineral City, Ohio, and ask for prices for same made of their best Glass Tank Composition. The price will be about $40 per ton f. o. b. Mineral City, made in sizes and shapes to order. This is the best I know of. If you wish to try concrete, the following formula is the best I know of:

Universal Brand Portland Cement, one part; crushed basic slag sand, four parts; mix well and tamp hard, which has proven superior to many fireclay products.

FRED W. HAGLOCH.

Coloring Putty

In answer to an inquiry received on coloring putty, will say that putty is colored with the ordinary painter's colors in oil, transparent colors being preferable, such as burnt and raw sienna, burnt and raw umber and lamp black. A good eye for color and some practice is needed in order to be successful. As all wood grows darker with age, it is better to make the putty two or three shades darker than the color of the wood, otherwise the nail holes and other places that have been puttied will show up as light spots after two or three months. EDWARD HURST BROWN.

Removing Putty from Old Windows

To the Editor: Cleveland, Ohio.

I have learned something to-day which, I hope, is worth publishing in your magazine. To remove putty from old windows, which carpenters are often called upon to work at on repairing old buildings, especially this time of the year, when putty is hard, soak with coal oil and it will be easy taking it off with a chisel. Also to treat putty when it is soft, take a little flour and mix with the putty. It will work well. PHILIP ORTH.

CONTENTS FOR APRIL, 1907

	Page
Appurtenances to Streets	80
Attractive Practical Houses	62
Attractive Public Library	74
Bad Swap	43
Boy Got the Raise	47
British Parish Churches	44
Building Construction	44
Cartoon	29
Cement Building Construction	79
Cement Machinery	80
Coloring Putty	98
Concrete Roof Construction	97
Constructing an Octagon Corner	94
Constructing Casement Windows	44
Correspondence	93
Cutting Siding for a Gable	97
Drawing the Line	73
Driving Concrete Piling	43
Editorials	27
Estimating Millwork	28
False Gentility	27
Farm Buildings	76
Finishing Various Woods	96
Fire Resisting Walls	98
Foolometer, A	43
Framing Hip Roofs	96
Geometrical Handrailing	48
Good Investment, A	93
Guide to Gas Engine Selection	94
How to Build a Screened Porch	95
How to Equalize Segment Heads	96
How to Use the Steel Square	38
Kind Desired	76
Laying Out Arches	40
Learning the Trade	75
Making Reinforced Lintels	93
Making Scaffold Bracket	97
Making Window Frames	93
Manual Training	90
Modern Church Design, A	82
Modern School Building	70
News Items	89
Oil Cloth Paper	97
Our Cover	27
Our New Offices	51
Painting	84
Pa's Housecleanin'	78
Planing Millwork	68
Plumbing	72
Practical Modern Barn, A	76
Practical Carpentry	48
Precautions	28
Preventing Pencil Marks Rubbing Out	67
Probe Cost of Capitol	27
Proper Method of Shingling	95
Pneumatic Water Supply for Country Houses	72
Question of Gasoline Engines	68
Removing Putty from Glass	75
Removing Putty from Old Windows	98
Residences	62
School Houses	70
Short Talks With Our Subscribers	35
Something New	78
Speed and Power for Saws	93
Staging for Concrete Buildings	95
Steel Square	38
Suggestions by a Member	97
Suggestions by a Member	94
Suggestions for Exterior Finish of Buildings	34
Tarred Roads in England	75
Tendency of Modern Decoration, The	86
The Home—Past and Present	49
Turpentine Advances	60
Types of Architecture in the Torrid Zone	30
Useful Paint Shop Hints	84
Windows	45

Practical Trade Appliances

Mail Order Progress

The past few years much headway has been made in handling goods without the necessity of sending solicitors around the country—at a very great expense. Suppose a concern were to send out men to sell goods to the carpenters and contractors throughout the United States—imagine the great loss of time there would be when the man must follow the contractor all around his city to find him. The solicitor goes to the contractor's office only to find him out. He is informed that the "boss" has just left in his rig, bound for the job of Mr. A. The solicitor starts out on foot to look him up and lands at the job of Mr. A. to be disappointed in finding he has just left for the job of Mr. B. Not knowing the different contractors, no doubt the salesman has passed them by. After he has seen Contractor No. 1 he wants to see Contractor No. 2, and probably with the same amount of tramping he had to locate the first contractor he finds him at the end of the day. With what profit? Probably none. Both had already bought goods they needed, or perhaps a new job was not yet in shape to figure, so that the salesman has lost his full day, and sold nothing. Compare this with the "mail-order" plan, as practiced by Schaller-Hoerr Co. Thousands of catalogs are sent out daily. They distribute an edition of 185,000 catalogs, or an average of about 600 for each working day of the year. They present themselves to the same number of contractors it would take 300 traveling men to see, and at an expense so nominal per visit that it would ratio 250 to 1.

Not that alone. This catalog is a salesman on the contractor's desk every day in the year. No time is wasted, for the contractor realizes the value of this 224-page book and has it within his reach on his desk, to be looked to when needed. No time is consumed talking and joking with the salesman, and no excuses are necessary as to why he does not buy.

Schaller-Hoerr Co.'s two-page advertisement in this issue of the AMERICAN CARPENTER AND BUILDER calls attention of our readers to a new and modern way of distributing their goods. They are sending out 1907 catalogs, giving net prices, *freight prepaid* to points east of the Rocky Mountains. They are now mailing out an advance catalog consisting of 48 pages, taken from their 224-page catalog. This book they claim to be the largest and most complete Sash and Door catalog, giving net prices on each and every item, with freight prepaid by them, ever issued. This is certainly a most stupendous undertaking when, in the face of the present railroad rate agitation, Schaller-Hoerr Co. get out over 185,000 catalogues with net prices, plus the exact freight to each point east of the Rockies. Schaller-Hoerr Co.'s record of advancement has been phenomenal, and in their fifth year of selling direct they claim to be in advance in their way of selling to the buyer of millwork. They guarantee safe delivery of goods and will stand cost of damaged goods where the buyer returns the freight bill properly endorsed as to the damage done. They guarantee their goods to be equal in grade to the specifications adopted by the Sash and Door Manufacturers' Association of the Northwest and their own representations. If they prove otherwise, goods may be returned and money will be refunded and freight paid both ways. This assures their customers every security as to the quality of goods they ship, for it is apparent they could not afford to ship anything but satisfactory goods. In their catalog they call attention to the many advantages of Chicago as a great central market. No doubt they are in sympathy with the great Chicago spirit which was so clearly shown in the "Good-fellowship Dinner" recently held in Chicago, at which something like 2,500 business men sat down to dinner together and boosted the great city on the lake, which is bound to become a still greater shipping point. The advantages of Chicago as a shipping location cannot be denied when a glance is taken at the map of the United States and Chicago is seen centered with railroads branching out in every direction, ready to carry goods via fast freight to the immediate or distant towns. A study of the freight rates out of Chicago will soon convince the inquirer of the lowness of Chicago rates compared with competitive points. When to an extremely low price the exact freight to each town east of the Rockies is added, it is at once seen that each subscriber to the AMERICAN CARPENTER AND BUILDER should write for their catalog, and have their name placed on Schaller-Hoerr Co.'s mailing list. The question of price is the first consideration, but not alone do Schaller-Hoerr Co. claim to show prices always the lowest, but assurance is given that the best attention and prompt service is accorded each and every order. No matter how large or small, buyers of millwork will fully realize that where price is the lowest and service the best they have found a good source from which to supply themselves. Schaller-Hoerr Co. have facilities for caring for a business equal to five times their last year's sales, and they have every reason to believe they will reach the mark they have set, for at this time their office force is four times larger than it was a year ago, and the season has just now opened. Every town in the United States will see a copy of their great 224-page catalog, crammed full of elegant illustrations, with net prices clearly shown on each and every item. They send their books of House Plans and 224-page catalog free to our readers. Send no money, but address Schaller-Hoerr Co., 26 Pilsen Station, Chicago.

The Complete Roof

Did it ever occur to you that Cortright Metal Roofing is the only complete roof; the only self-contained roof? You must add tin to either stone slates or wood shingles. You must add solder to plain tin or copper. You must add cement or asphalt to tiles. You add nothing to Cortright Metal Roofing. It contains everything but the nails to fasten it on.

Then again, if you would have a stone slate roof, you must have an expert slater and an expert tinner. If you would have a wood shingle roof, you must have a skilled workman, a hybrid roofer—half carpenter—and you must

go again for the expert tinner. If you would have a tile roof, you want another hybrid—part paver—but highly skilled. That's two kinds of materials and two kinds of workmanship—and all kinds of apprehension for the future of the roof. But for Cortright Metal Roofing you only want a hammer, some nails, and practical mechanical knowledge. Cortright Metal Roofing is not self-laying; but you can hardly go a mile in any direction, in a fairly populated country, without rubbing against some one who can put it on, and make a better roof than the greatest roof expert in the world can make with stone, slate, tiles, or plain tin.

And finally, you pay for Cortright Metal Roofing only a moderate price, less than for either stone, slate or tiles, and perhaps no more than for wood shingles. Nothing to rust, nothing to rot, nothing to curl and split, nothing to leak. All you do is to be reasonable with a Cortright Roof—a little paint now and then.

Write to Cortright Metal Roofing Co. for further information.

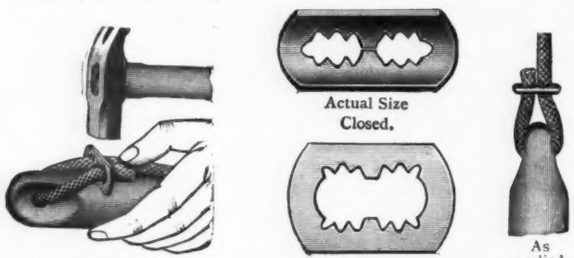
A New Sash Cord

The H. B. Ives Co., of New Haven, Conn., manufacturers of builders' hardware specialties, are offering to the trade a new specialty known as "The Titan" (Tight-on) Cord and



How it is applied with a Hammer. | As it appears in the Sash. | Actual Size Front View Open. | Actual Size Closed.

Weight Fastener. They claim this specialty provides the most modern and economical method for hanging sash. It is cheaper than tying knots, and saves more than cost in time and cord. They hang the weights plumb, will not rub or bind, and the adjustment is always maintained. The



How it is applied with a Hammer. | Actual Size Closed. | Actual Size Open. | As applied to Weight.

Titan (Tight-on) Cord and Weight Fasteners are applied with the carpenter's handiest tool—the hammer, and are for sale by the hardware trade. Sample mailed free upon application to the manufacturers.

Going to Own a "Bike" This Year?

Renewed interest is being taken in cycling all over the country, now that high-grade wheels which formerly sold for $75 to $100 can at present be purchased at prices ranging from $15 to $30. Not only are the wheels less expensive today, but they are even better, for many new improvements have been added, such as puncture-proof, self-healing tires, and the coaster brake which has done more to revive cycling than anything else.

This device enables the rider to coast down hill with the pedals motionless. To slacken speed or stop instantly, all that is required is to back pedal. One-third less pedaling is needed and the wheel is under the rider's control at all times.

To obtain a wheel for ten days' free trial and examination without cost, write the Mead Cycle Company, Chicago. Their large, illustrated catalogue is sent free, and they are always ready to engage live, active agents.

Key to the Steel Square

This little device is meeting with favor among all classes of mechanics whose work in any way deals with angles. The working instrument is made of heavy celluloid in three separate pieces, pivoted at the center, so that by turning the disks to any desired angle a slot in same reveals the figures to use on the common steel square to obtain the desired cut, or angle. Nothing like it has ever been offered to the building public before, and certainly there can be nothing better in teaching how to use the steel square. It is a ready reckoner; not a question of ability of the carpenter to get along without it, but it is a time saver as well as an insurer of accuracy of work. It is to its possessor as the interest table is to the banker. He could get along without it, but does it pay? Mr. Woods' article for this month's magazine describes the use of the Key in connection with the square, and should have the attention of every reader. Mr. Woods reports good sales, not only in this country, but recently a number of orders have been filled to go into foreign countries. The Key is furnished with instruction book, handsome morocco case and all suitable for carrying in the pocket. Much other valuable information is given in the book, such as unequal pitches, hopper cuts, etc. In the future this handy device will be sold by the Book Department of the AMERICAN CARPENTER AND BUILDER.

Modern Plumbing Illustrated

A comprehensive and thoroughly practical work on the modern and most approved methods of plumbing construction. The standard work for plumbers, architects, builders, property owners and for boards of health and plumbing examiners. By R. M. Starbuck, author of "Questions and Answers on the Practice and Theory of Sanitary Plumbing," "Questions and Answers on the Practice and Theory of Steam and Hot Water Heating," "Hot Water Circulation Illustrated," "Examination Charts for Boards of Health," "Examination Charts for Plumbers' Unions," "The Starbuck Plumber's Estimate Book," etc. Fully illustrated by fifty-five full-page plates, made expressly by the author for this work. New York: The Norman W. Henley Publishing Company.

Planer with Buzz Attachment

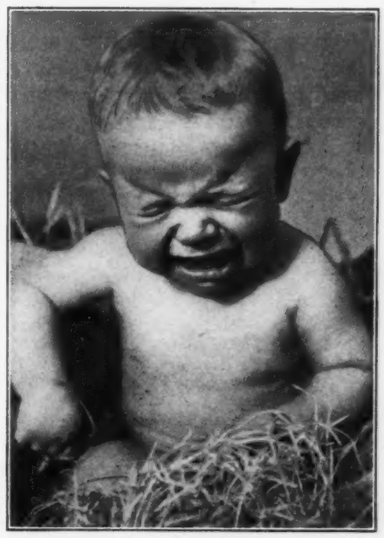
Messrs. C. & A. Hodgkins Company, of Marlboro, N. H., call the attention of our readers to a very important machine, one that is designed to make the work of the planing mill man considerably lighter. It is a planer with a buzz attachment, to dress lumber out of wind, or straighten the edge for glue joints, etc. The rest is made to set at any angle, to use for cutting bevels, or guide the lumber square. The depth of cut is regulated in a moment at the right hand by a handle moving back and forth. By moving the handle back that part of the table is lowered so as to throw the shavings over it, when using the machine as a common board planer (as the lumber is run under the cylinder).

New Addition Completed

The Willis Mfg. Company, of Galesburg, Ill., have just completed the erection of their new addition, which gives them an added floor space of 4,000 square feet, that will be occupied by new machinery which will enable them to meet the requirements of their rapidly increasing business. In a few weeks they will be prepared to distribute to the building contractors and architects a special catalogue on fire-proof

A Crying Need

The simplest and best floor Scraping machine on the market. Has direct pressure on the knife, the handle having no pressure control whatsoever. Any man can readily learn to use it. Guaranteed to make an absolutely even surface, inasmuch as the knife has a uniform pressure at all times with no possible chance of jumping and making a wavy floor.



The "Little Shaver" is sold under our guarantee to do the best and fastest work and is the cheapest on the market; will scrape more square feet of floor in an hour than five men can in the old way, on hands and knees. If you can push a lawn mower, you can pull a "Little Shaver." Order one and make your men happy by saving their knees and your time and labor.

The "Little Shaver" Floor Scraper



Patent No. 839,994

Can carry it up and down stairs with ease.

The "Little Shaver" is nicely machined and has rubber tires. The wheels are ten inches high and the machine and knife are seven and three-quarter inches wide. The handle works on a patent hinge, its purpose being never to lift the wheels from the floor, thereby keeping the knife at a uniform pressure. The "Little Shaver" can be used on Oak, Maple, Birch, Beech, Yellow Pine and Parquet floors. Can get into corners and along baseboards with ease.

The best knee and money saver on the market.



Price Complete with a dozen Knives, $40.00, F. O. B. Chicago, Ill.

CONTRACTORS' SUPPLY AND EQUIPMENT COMPANY

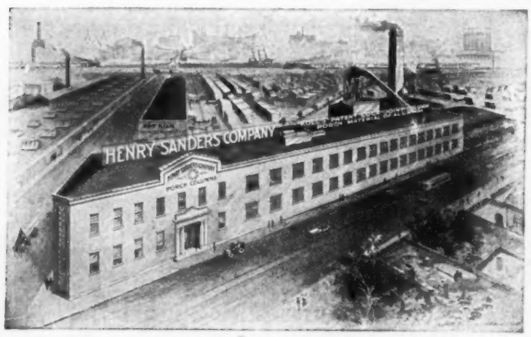
520 OLD COLONY BUILDING, CHICAGO

constructions, which they manufacture, including the Miller patent sheet metal window frames and sash, skylights, fire doors and shutters, etc. Their skylights are provided with condensation gutters and bars, and are guaranteed not to leak. They invite your inquiries for a copy of catalogue No. 5 of skylights, cornices, crestings, finials, steel ceilings, and architectural sheet metal ornaments.

New Home of the Henry Sanders Co.

The new factory of the Henry Sanders Company, Chicago, which has just recently been finished, is perhaps the most complete and best equipped plant in the country for the manufacture of porch materials and columns.

The factory, which is at Elston and Webster avenues, is



light, spacious and arranged with especial attention to turning out the highest quality of work in the shortest possible time.

The company has spared no expense in constructing and equipping the new factory. The dry kilns, which have a capacity of 600,000 feet of lumber, are a splendid example of what science and money can accomplish for the perfect seasoning of wood. The new machinery for making balusters, railings, newels, pilasters and all other porch materials is thoroughly modern. No approved machine which is advantageous in the manufacture of these materials has been left out. The entire factory is so arranged that the manufacturing and assembling of the various parts are performed in the most workmanlike manner in the least possible time.

The manager, Mr. Ernst Koll, insisted that his two pet hobbies—quality and prompt shipments—should be given full sway in the new plant.

The Sanders Company is the largest manufacturer in America of the justly popular Colonial architectural products. The prime feature of this style of architecture, of course, is the column.

Knowing well that a building is made or marred by its columns, the Sanders Company made a special study of that important branch of architecture. It was desired to produce a stock column that would be perfect architecturally, beautiful, strong, durable and superior in workmanship and quality.

The result was Koll's Patent Lock Joint Columns. These have true classic proportions. The problem of correct entasis is solved in them. The mechanical construction is perfect. The Koll Patent Lock Joint fastens the staves together so that they can not come apart. It is absolutely impossible for the joints to open under any natural conditions.

The Koll Columns have long been known to dealers, contractors and architects. They have been used in many of the finest residences, country clubs and public buildings as well as in thousands of smaller and less pretentious homes in all parts of the land.

Their popularity has been won on merit. The many points of superiority over all others have made them a building staple that architects want to specify, contractors like to handle, dealers are pleased to sell and home builders are demanding.

Mr. Ernst Koll was the originator of the lock joint and his original plan has never been equalled or improved upon. When he conceived the idea it seemed good. He had it patented and put into practice, and the Sanders Company began pushing Koll's Patent Lock Joint Columns.

That was in 1898. It didn't take nine years for the merits of the columns to become known. A great white light broke over the building world when the lock joint idea was given out to the public. The great advantages of the device were instantly seen and the reward to the pioneer has been gratifying.

The method of construction of the Koll Columns is as perfect as human ingenuity can devise. The staves are first thoroughly heated in the steam box. They are then thoroughly cemented with water proof glue, quickly and carefully placed in forms and immediately clamped with specially devised clamps placed on the shaft at intervals of 18 inches, thereby insuring absolute contact and perfect adhesion. The clamping up process is completed before the stock is cold—a very important consideration.

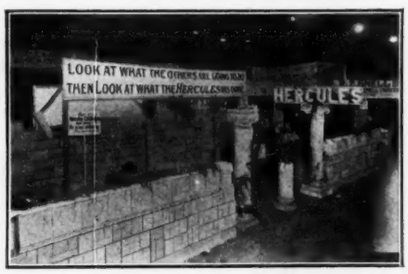
Each stave is swell-tapered in the upper two-thirds of its length so that when assembled and drawn together at the top like a barrel the stave is as thick at the top as at the bottom. The correct entasis is thus secured and a uniform thickness of the stave is maintained throughout its entire length.

The columns are made plain and fluted, and in the five orders of architecture—Tuscan, Doric, Composite, Ionic and Corinthian—or to special detail if desired. Square columns and pilasters are also made to match any style of round column.

Beside the Chicago establishment of the Sanders Company, there are eastern and western factories—Hartmann Bros. Manufacturing Company, Mt. Vernon, N. Y., and August J. Koll, Los Angeles, Cal.

American Cement Block Machines in Egypt

Concrete is the favorite building material in Cairo, Egypt. The Century Cement Machine Company of Rochester, N. Y., has just shipped six Hercules Cement Block Machines to one



contractor in that city. This is the second order from the same contractor, as he has been operating four Hercules machines for two years. It is understood that the last shipment is to be used in making concrete blocks for an elaborate public building of great architectural beauty.

Ornamental Iron

In the course of erecting a building, especially if the building be a business block, ornamental ironwork, while not a large item, is, however, one of great importance. It is to the contractor's interest to see that this class of work is kept on a par with the other. The Co-operative Wire and Iron Works, 51st and Halsted Streets, Chicago, are a

growing concern, starting out in a small way, but to-day have, by their own merit and the merit of their products, come right to the front. They manufacture a complete line of wire and ironwork, bank and office railings, window-guards, fences, wire lockers, elevator enclosures, etc. They would be pleased to send anyone their catalog No. 34, which shows their entire line, upon request. Just drop them a card, mentioning the AMERICAN CARPENTER AND BUILDER, and it will be to your interest.

"Morrill" Registered as a Trade Mark

Chas. Morrill, of No. 277 Broadway, New York, manufacturer of sawsets, bench stops, nail-pullers and other hardware specialties, has recently registered in the United States patent office his name "Morrill" as a trade-mark. Mr. Morrill has been annoyed considerably in the past by persons using his name to deceive the public, but now that this trade mark has been registered in the United States patent office, all parties using this mark in any manner may be prosecuted.

A Perfectly Waterproof Paint

Did you ever notice that in congested districts of large cities, and even in smaller towns, the smoke and fumes from the chimneys of factories, and from smoke stacks of engines, cause the air to become filled with sulphurous gases. These gases are the deadliest enemy of paint. After years of experimenting the H. B. Morgan Co., Grand Crossing, Chicago, Ill., are in a position to place before you, an article of great interest to you, Mr. Builder —a paint that is perfectly waterproof, and at the same time is aboslutely proof against any atmospheric or climatic change. Lead and oil, mixed, saponify, that is they form a soap, as it were, and linseed oil oxidizes in the air, and the pigments get finally destroyed. By a patented formula, this firm insert into their linseed oil, or any other drying oil for that matter, qualities which will absolutely prevent saponification, a quality which makes the paint insoluble, and perfectly waterproof.

Their structural iron paint is guaranteed to be rust, heat, acid and alkali proof. In applying this product on concrete work, or the like, the paint becomes as a unit with the material itself, and it is impossible to scrape it off. It will neither powder, check nor peel. According to statements made to a representative of this paper, their paint is not only made from the best material, but its ingredients are put together in the most scientific manner. The spreading quality of this paint is guaranteed to be as great as any and much greater than some. Brick or stone buildings can be beautified with it, and in applying their product you have the knowledge that the beauty will remain as long as the wall decorated. Their roofing paint is made in all different colors except white and will not ignite. This firm is willing to stand entirely on their own merits, and they will be pleased to send anyone **free** samples of their product. Write them today.

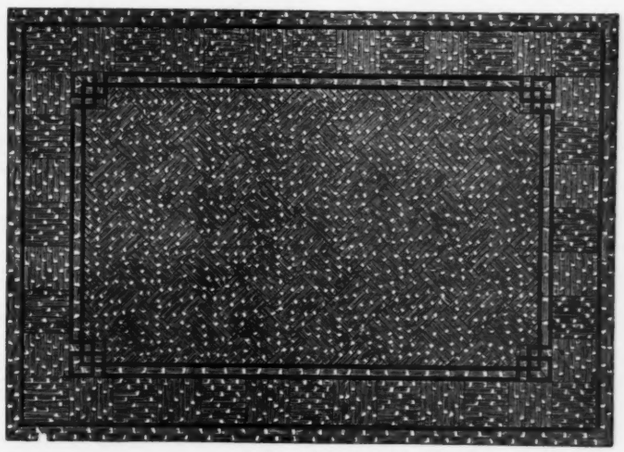
The Kramer Automatic Tamper

The primary object of the successful manufacturer of concrete building blocks is the production of a perfect block or brick with the greatest economy in cost. The only obstacles to the universal use of concrete blocks in building have been their great cost and the frequent occurrence of imperfections in the block due to process of manufacture. These imperfections and the great cost of these blocks are both due to the employment of hand labor. Nothing manufactured by hand can approach in uniformity of result the output of a perfected automatic machine, and it gives in addition to its uniformity, vastly greater rapidity. The automatic tamper manufactured by the Kramer Automatic Tamper Company, Peoria, Ill., solves all of these problems. It will tamp blocks to any required density at the rate of from 600 to 1,000 per day. Bricks or blocks made by this tamper are hard, strong, and practically impervious to water, which entirely eliminates the appearance of alkali on the outside surface of the blocks, and hard blocks, with the voids positively closed, mean a dry inside wall. There is also a great saving in cement by the use of this tamper, and it is claimed by the manufacturer that a five to one mixture on their machine makes a better block than a four to one mixture by the other method. If you are interested in the cement block manufacture it would be worth your while to write these people for descriptive literature. It will be sent on request by mentioning the AMERICAN CARPENTER AND BUILDER.

Millwork Direct to the Consumer

The company whose advertisement appears on pages 126 and 127 of this number have for years been selling all kinds of millwork and millwork specialties direct to the contractors and builders throughout the country.

When the readers of the AMERICAN CARPENTER AND BUILDER see an advertisement appearing regularly year after year in its columns, as that of the Chicago Millwork Supply Company's has been, they have every reason to believe that they



are holding up strictly to their policy of highest grades at the lowest possible prices, and that the dealers throughout the country are satisfied, especially so when we understand their business is increasing very rapidly, in fact so rapidly that they have under way plans for a much larger warehouse than they are occupying. They expect in the next sixty or ninety days to have ready for occupancy a new building nearly three times the size of the one they at present are using.

They have fully demonstrated their idea of holding to a strictly mail order business, being better not only for themselves but for their customers, because while it is expensive to keep high priced traveling men on the road they are able to cut out this expense and let each order which is filled act as their salesman in the quality furnished, and in using every effort to make prompt and satisfactory shipments they are bringing in more orders.

The design of wood carpet shown above is the Chicago Millwork Supply Company's design No. C2154, and an artistic design made up of oak strips, one-inch cherry at the wall line, border of quartered blocks and the strip border four inches with corner blocks of oak and cherry. The center quartered white oak field. The design being adapted to any shaped room. Their wood carpet designs are well known throughout the country, and their catalogue referred to in their advertisement shows many other handsome designs in this line of work.

The Flint Coated Roofing "Economy Brand," which is illus-

Fill Those Cracks
with
Johnson's Crack Filler

Send Coupon Below for FREE Sample Can



Photographic illustration showing ease of applying Johnson's Crack Filler.

"A Non-Shrinking Adhesive Compound for Filling Cracks."

It has taken us years to perfect Johnson's Crack Filler, which is now recognized as superior to all substitutes for putty. Expert painters and wood-finishers are using it in preference to any other. It is of special value in filling cracks between boards, nail and carpet tack holes in old floors. It is also used for rough and slivered surfaces, it will not shrink, is antiseptic and moth preventive.

Johnson's Crack Filler is Sold by all Dealers in Paint

1 and 2 lb. cans, per lb., 25c. 5 lb. cans, per lb., 20c.
Ask your dealer and insist on getting the genuine Johnson's Crack Filler.

Mail us coupon to the left and get **FREE** sample can of Johnson's Crack Filler and copy of our new 48-page color book, "The Proper Treatment of Floors, Woodwork and Furniture," regular 25c edition **FREE.** This book is full of valuable information for painters. Send today.



S. C. Johnson & Son, Racine, Wis.

Gentlemen: My paint dealer's name is .....

His address is .....

My paint dealer's jobber's name is .....

His address is .....

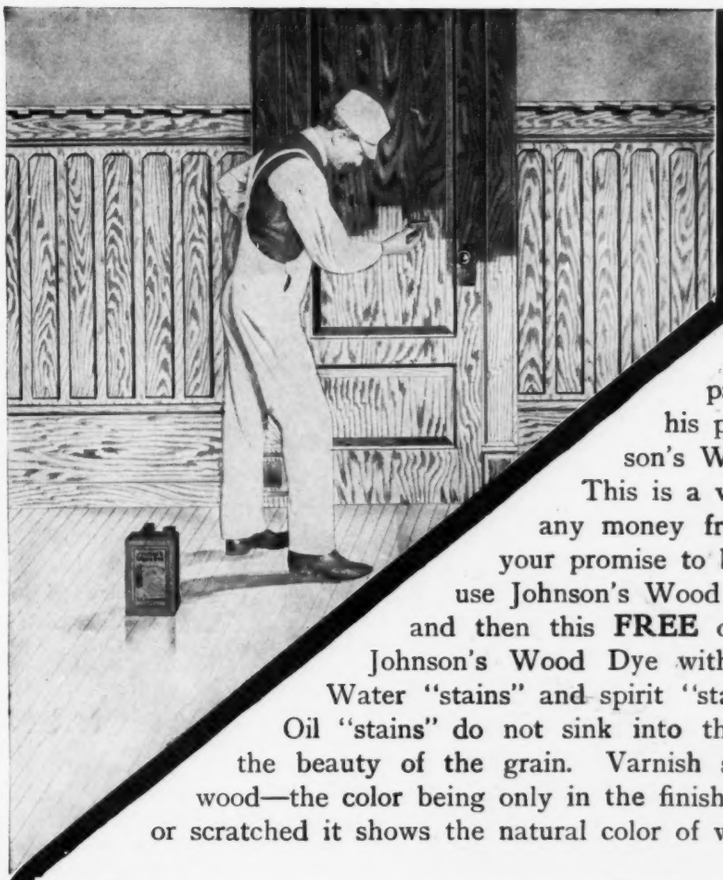
for which please send me Free prepaid 1 can of Johnson's Crack Filler, and copy of your new 25c Book, "The Proper Treatment for Floors, Woodwork and Furniture," edition ACB-4, as per your Free offer.

My name is .....

Address .....

S. C. Johnson & Son
Racine, Wis.

"The Wood-Finishing Authorities."



3 Cans FREE

We will send **FREE** to every painter, who gives us the name of his paint dealer, two (2) cans of Johnson's Wood Dye to try at our expense. This is a very liberal offer—we do not want any money from you now or in the future, or your promise to buy. We feel sure that once you use Johnson's Wood Dye you will continue to use it and then this **FREE** offer will pay us. Don't confuse Johnson's Wood Dye with various "stains" now on sale. Water "stains" and spirit "stains" raise the grain of the wood. Oil "stains" do not sink into the wood, nor do they bring out the beauty of the grain. Varnish stains do not properly color the wood—the color being only in the finish. When varnish finish is marred or scratched it shows the natural color of wood—revealing the sham.

Johnson's Wood Dye

is a dye. It penetrates the wood; does not raise the grain; retains the high lights and brings out the beauty of the wood.

Johnson's Wood Dye is prepared in all Shades as follows: No. 131, Brown Weathered Oak; No. 129, Dark Mahogany; No. 172, Flemish Oak; No. 140, Manilla Oak; No 126, Light Oak; No. 110, Bog Oak; No. 123, Dark Oak; No. 128, Light Mahogany; No. 121, Moss Green; No. 125, Mission Oak; No. 178, Brown Flemish Oak; No. 130, Weathered Oak. Sold by the leading paint dealers. Insist on getting the genuine—don't take a substitute.

We will also send you **FREE** one can of **Johnson's Electric Solvo** with the two cans of dye. This is the finest preparation in the world for removing all finish from wood, metal and glass.

Be sure to send us your paint dealer's name and the name of paint jobber with whom your dealer does business so we can make it easy for you and your dealer to get our preparations.

Use Coupon to the right—cut it out and send today.

S. C. JOHNSON & SON,

Racine, Wis.

"The Wood-Finishing Authorities."

S. C. Johnson & Son, Racine, Wis.

Gentlemen: My paint dealer's name is .....

His address is .....

My paint dealer's jobber's name is .....

His address is .....

for which please send me **FREE**, prepaid, 2 cans of Johnson's Wood Dye.....shades, and 1 can of Johnson's Electric Solvo, and copy of your new 25c book, "The Proper Treatment for Floors, Woodwork and Furniture." Edition ACB4, all **FREE** as per your offer.

My name is .....

Address .....

Use Coupon



trated and described on page 126 is the result of years of test and experiment and is strictly a high grade roofing. They are glad to send out samples of the one, two and three ply with full description and prices upon application.

Their catalogue referred to in the advertisement is one of the largest and most complete net price millwork books published, giving the lowest possible net prices, on everything, that can be made, and still hold to their principles of high grades, prompt shipment and square dealing in everything. They are progressive and aggressive, and we understand it is their intention to follow up more closely their aim to give prompt and careful attention to all orders, large or small, and their increased capacity will enable them to do this better than ever before.

Cement Shingles that are Satisfactory

The U. S. Cement Shingle or Roofing Tile, as made on the U. S. Cement Shingle Machine, has met with the hearty approval of the largest and best contractors and builders



This Building, on the Wapakoneta Fair Grounds, is Covered With U. S. Cement Roofing

throughout the United States and Canada. The manufacturers have endeavored to put upon the market a machine that will produce shingle that is water proof, snow proof, light, durable and above all, practical. The machines make the shingle face-up or troweled face, which gives it a glazed surface, much smoother than slate, and does not have the pores, which in winter will become filled with water and freeze, thereby chipping the shingle, as is the case when a shingle is made down-face. U. S. Cement Shingles are of a most graceful shape and well proportioned. They can be made in various colors and very handsome effects and combinations can be produced. They have been used in roofing churches, business blocks, dwellings, barns, school houses and other buildings where a roof is used, and the manufacturers have yet to hear of a single dissatisfied customer. For further particulars address the U. S. Cement Machine Company, Deshler, O.

The Butcher Tubular Bar

Is, as its name implies, hollow, except about one foot of hardened steel at one end, made tapering like a chisel, and a tamper for post holes, etc., at the other. It is strong, just the right weight and right size for the hand to grasp, so that a man will do twice the work and do it easier than with the regulation crowbar. It is the best bar for all-round work made, and is especially great in loosening up brick, clay, boulders, hard ground, cutting roots and rubbish in filled-in ground, etc., etc., for post hole digging.

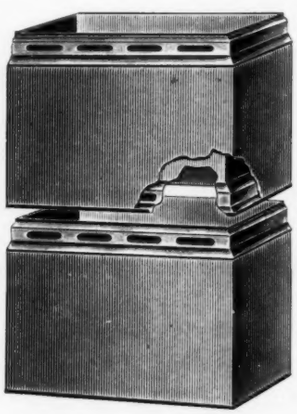
With this bar and the Automatic Digger, no other tools are needed for digging holes in any kind of ground. They are made in two lengths, 7 and 10 feet. The long ones are used principally for railroad and telephone poles, where holes are made larger at the bottom to be filled in with concrete. Write for further information to Laramy-Howlett Co., Box 42, Cambridge, Mass.

High-Grade, Low-Priced Roofing

There are serious objections to both shingle and tin roofs. Shingle roofs will rot and are liable to burn. Tin roofs will rust. The perfecting of composition roofing was a distinct advance in building. No part of a building is more important than the roof. In fact, when it is considered that the roof protects the entire building and its contents, it can safely be said that it is all important that the roof be made of the best and most enduring material. A roofing that the actual test of long use has proved to be absolutely satisfactory is *Beacon-ite Long-Life Roofing*, made by the Beacon-ite Mills of St. Louis. It is a long wood fibre rendered damp-proof and fire resisting by a secret chemical process. A leaky roof is unknown when *Beacon-ite* is used. A feature about *Beacon-ite* which makes it of special interest to every carpenter and builder is the fact that it is sold directly from the mills, freight prepaid. It is the only roofing that is sold that way. Buying directly from the mills you cut out two profits: the dealer's and the salesman's. Thus you are able to get a strictly high-grade roofing much cheaper than any other can be obtained. Free samples of *Beacon-ite Long-Life Roofing* are sent to anybody who wants them, together with mill prices and "Roofing Literature." The manufacturers are making a proposition of special interest to carpenters and builders. It will prove a money maker for all who get it, and is sent on application. Write for it to Beacon-ite Mills, Dept. 24, N. 2nd street, St. Louis, Mo.

The Improved Handy Wall Pipe

A new departure in wall pipe is being offered to the trade by the F. Meyer & Brother Company, Peoria, Ill. Formerly the lap was composed of two tongues; now it has only one. This change will be appreciated by furnace men. The large end is 5/8 of an inch larger than the small end, the slip being 1 3/8 inches long, and so arranged that it tapers down to make an easy fitting joint, but when once put together, it fits absolutely tight and cannot come apart. The inside area of this pipe has been enlarged considerably and the method of making the lap changed so that the pipe can be put together without any effort, yet holding firmly so that it may be roughly handled while being placed in position.



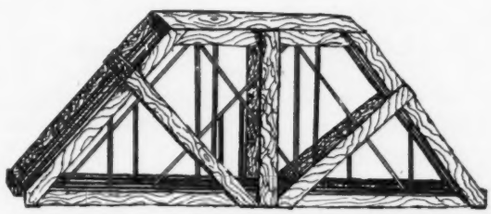
Knowing that they would have an immense sale for this pipe they made preparations accordingly to handle the orders, but have been compelled to install a number of new machines in order to turn out the new product.

In order to have you more fully understand the new construction and its merits this company will be pleased to send a full sized sample free of charge to those who are inter-

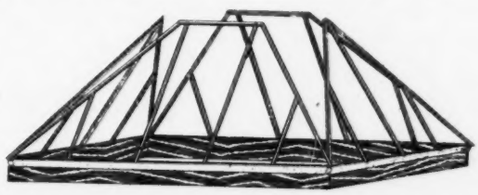
ested. If you are, just write them, mentioning this paper, for their catalogue and sample of the new handy wall pipe.

Knocked Down Skylights

Skylights having metal frames are not new to our readers, but the "knocked down" metal frame skylight illustrated below will be of interest to builders, who no doubt have had annoying experiences with bulky frames liable to damage by transportation companies.

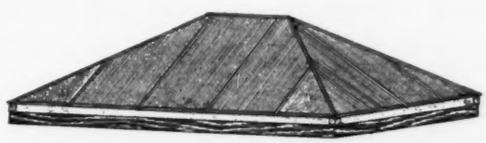


This cut illustrates a 6 foot by 8 foot skylight as crated for shipment, and the crate is 8½ feet by 3½ feet and 6 inches thick; it goes anywhere safely at a low freight rate.



This shows the metal frame (which is in four pieces) as they are assembled on the curb. The parts bolt together on the hip and ridge lines. All glazing bars are provided with condensation gutters, caps and cleats to hold the glass in place.

In the third illustration the frame is shown in position on the wood curb, ready for the glass. Any handy man can put the frame together without the aid of tools, soldering or putty.



This cut shows the completed skylight glazed with ribbed glass.

The Galesburg Cornice Works, Galesburg, Ill., are manufacturers of these skylights and they have a neat descriptive catalog showing many styles, all of which are constructed on the "knocked down" principle.

Ashbaugh's Sanitary Wall Finish

Is something every builder, contractor, or owner of a home should be interested in. When our representative was in Columbus, Ohio, he called upon the Columbus White Lead Company, at 142-144 South Front Street, and to his surprise found in their manufacture one of the most beautiful, soft, velvet flat wall finishes he ever saw. He learned that it was manufactured from lead and oil, and was so hard when dry upon the wall that dirt or dust could not penetrate it and would wash better than enamel or varnish, without marring its beauty in the least. It does not show laps or brush marks, therefore no stippling is required. Another remarkable thing is that pin cracks in walls are so perfectly sealed that they never show; a thing which has been so disastrous to other wall finishes. They put it up in white and tints, paste and liquid form. The white paste form can be tinted with colors in oil like other leads. The following letter from the Columbus Board of Trade is one of a large number of testimonials received from satisfied users:

"In response to yours of late date, I beg to say that it affords me pleasure to inform you that the use of your 'Wall-finish' in the Columbus Board of Trade Building has been most satisfactory. Indeed, so favorably has the Board's 'House Committee' been impressed with its merits, that they have determined in the future to discard all forms of paper-hanging in offices and confine themselves to the 'Ashbaugh.' You are certainly to be congratulated upon having produced and marketed an article so fully and perfectly meeting the requirements of the public in this regard."

All inquiries addressed to this firm will be courteously and promptly answered.

The Berlin System

The all-important point in a block-making system is the block produced. Such is the policy of the Francis Machine Company, of St. Louis, Mo., who are placing a machine upon the market for making a product which they term "White Diamond Concrete." The advantages claimed by the company for its product are as follows:

1. *Cost.*—The cost of making a block by the "Berlin System" is less than by any other system.

2. *Cement.*—A smaller amount of cement is used, or, if the same amount is used, the block will have more than double the strength of a block made of damp concrete.

3. *Sprinkling.*—The blocks are never sprinkled. This is a great saving, especially where water is scarce.

4. *Plastic Concrete.*—Medium wet concrete is used. This is easy to mix and handle and requires very little tamping.

5. *Quick Hardening.*—The stones are hard in less than one-half the time required by any other system. This means a saving of time to you.

6. *Adaptability.*—Your work can progress more rapidly. Does not require such a large plot of ground. Stone can be made on the building site and used without the loss of too much time.

7. *Strength.*—Concrete building blocks (made by this system) of one part of Portland cement and seven parts of aggregate will meet all the requirements and building regulations, and withstand the most severe tests to which concrete can be put.

8. *Damp Proof.*—All building blocks are absolutely damp proof.

9. *Sweating.*—Walls built of these blocks will not sweat on the inside.

10. *Fire Proof.*—The blocks when heated to over 1,500 degrees of heat, Fahrenheit, will show no disintegration.

11. *Frost Proof.*—All blocks will stand the freezing tests without showing any disintegration.

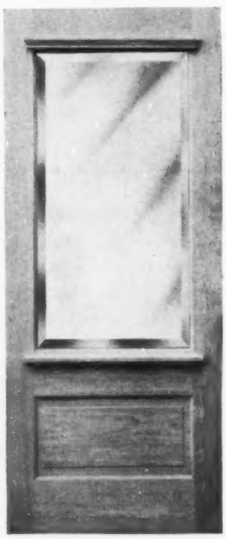
12. *Color.*—All blocks will be of a light stone color. Being damp proof they will also be *dirt proof* and will always remain clean.

13. *Durability.*—The scientifically correct treatment is the factor that gives concrete the durability of granite, not equaled by any other system. The Francis Machinery Company call attention also to the fact that in using their Berlin system, blocks are produced so perfect that no waterproofing materials are necessary. They state that this is one of the reasons why buildings erected under the Berlin system are so much better and cheaper to construct than buildings which

WE SAVE YOU 50%

And We Prepay

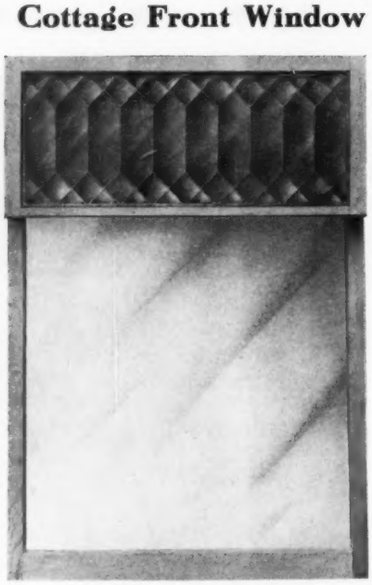
SOFT PINE
"AA" Quality—Front Door



Glazed Bevel Plate Glass

2–8x6–8-1¾. Price, **$7.23.**
Other sizes in proportion.

Cottage Front Window



Size, 2–light 40 inches wide
Top, 16 inches high
Bot. 40 inches high
Price $3.40
Bot. glazed 16 oz. Sheet Glass. Top leaded Crystal
Other Sizes in proportion.

Our Offer to You

If you will send us your name (no money), we will in return present you with our **book of plans, our 224 page beautifully illustrated catalogue** of millwork, quoting the lowest prices, and **our proposition** which explains how you can get our $10 to $75 architect's plans absolutely free.

We Save You 50 Per Cent on Your Mill-Work

You are a man of hard sense. You will agree that if you were morally certain, **absolutely convinced,** that we can sell you **better quality** millwork at lower prices, with a **safer** delivery than any other millwork concern, you would buy from no one but us.

Well, then, let us convince you **now.** For **we do.**

HERE IS THE PROOF Prices

First of all, because we sell to you **direct from our factory at factory bedrock prices.** Look at these illustrations and the prices quoted. Granted their quality, did you ever see anything so cheap? Where else can you get an eight foot Colonial column for $1.35 or hardwood flooring at $16.00 f. o. b. shipping point? Our catalog is full of bargains just as good.

Quality

Because our quality is **absolutely guaranteed to be first class.** We agree to furnish all goods according to the official grades as adopted by the Sash, Door and Blind Manufacturers' Association of the Northwest. Should they not prove to be so, we will take them back and stand for the freight both ways in addition to returning your money.

FREE

Prepaid Freight

Because we send all goods to points east of the Rocky Mountains **Freight Prepaid.** You can realize the advantage of this. It allows you to know exactly the total cost of your goods at the station, and it does not permit the railroad agent to overcharge you.

New Methods

Because we have as our superintendent an **expert** who has made some very **important improvements** in **manufacturing** and **veneering** which distinguish our goods from all others.

Safe Delivery

Because we absolutely guarantee **prompt** and **safe delivery.** We are shipping goods all over the United States with the agreement to replace damaged goods or broken glass on condition that you send us the freight bill endorsed by the agent showing the damage done.

Our Fifth Year Selling Direct **SCHALLER-HOERR CO.** **30 Pilsen Station, CHICACO**

ON YOUR MILL-WORK
the FREIGHT

$10 to $75 Architect's Plans
25c Book of Plans
224 pg. Illustrated Catalog

Chicago Mill-Work Center

Because we are located in Chicago, the **greatest millwork center in the United States.** We are therefore in close proximity to both the great Indiana Glass plants and the great natural source of Millwork material in Wisconsin, Minnesota and Michigan. This makes it possible for us to manufacture our goods at the lowest prices.

Lowest Freight Rates

Because our location in Chicago gives us the **lowest average freight** rates; because Chicago is the greatest railroad center in U. S. This eliminates the cost and damage due to numerous transfers.

Personal Responsibility

Because Mr. Schaller and Mr. Hoerr, the two most expert millwork men in Chicago, have **personal charge** of the office, factory and the shipping departments, and stand back of their goods with their own reputation for reliability and honesty.

Their responsibility may be ascertained by any one from any bank or commercial agency. We refer you by permission to the Metropolitan Trust and Savings Bank, Chicago. Ask your Home Banker to look us up.

Recommendations

METROPOLITAN
TRUST & SAVINGS BANK

Capital and Surplus $850,000

Chicago, June 15, 1905.

To whom it may concern:

We have much pleasure in stating that Messrs. Schaller-Hoerr Co. have a satisfactory account with this bank and have always met their engagements with us promptly. Our relations with them have been so satisfactory that we believe anyone doing business with the firm will meet with straight-forward treatment.

We have favorably known the gentlemen connected with the firm for some years and will be pleased to answer any further inquiries from parties interested.

Yours very truly,
(Signed) James H. Gilbert,
President.

H. H. KOHLSAAT & COMPANY

1701-1717 Wabash Ave.

Chicago, June 15, 1905.

To whom it may concern:

The Schaller-Hoerr Co. have in the past several years furnished us with considerable mill and cabinet work, which has been entirely satisfactory.

The result of our dealings with them has been of such a nature that we have no hesitancy in recommending them to prospective purchasers in their line, believing they will at all times do what they argee to, to the best of their ability.

Yours very truly,
H. H. Kohlsaat & Co.,
By (Signed) F. R. Barnheisel,
President.

Finally

Finally you may know that it will pay you and pay you well to buy your millwork from us and no one else by sending for our Catalog, our book of plans and the free proposition for $10 to $75 Architect's plans. Take advantage of **this** free offer today. Send name on a postal card at once.

Above Prices, F. O. B., Chicago

GET OUR FREIGHT PREPAID PRICES

SCHALLER-HOERR CO.

30 Pilsen Station, CHICAGO



5x5 4–0
YELLOW PINE
Each, **$2.10**

Stair Newels



6x6 4–0
YELLOW PINE
Each, **$2.90**

HARDWOOD FRONT-DOOR
—veneered—



Size, 2-8x6x8—1¾ in.
Glazed bev. Plate
Price, **$7.00**

OAK VENEERED INTERIOR DOOR



—Oak and Birch—
Size, 2-0x6-0—1¾ in.
Oak, **$2.93**
Birch, **$2.47**

Colonial Column



6-inch Diam.
8-0 Long.
Each, **$1.35**

Other sizes in proportion

have to be waterproofed. Their advertisement in this issue will give further information, and by writing for their catalogue, etc., a person can be fully posted.

Combined Level and Grade Finder

This instrument, manufactured by Edward Helb, Railroad, Pa., is complete in all its arrangements, and is the only one of its kind on the market. In size and appearance it is like the ordinary spirit level, being two feet long, three and a half inches wide and one and five-eighths inches thick, As illustrated in Fig. 1, it serves every purpose of the ordinary level. However, on account of the longitudinal recess



SIDE VIEW

formed in the bottom, by means of which it is possible at first sight to find the true bottom level of any grade or surface at any distance, the instrument far surpasses the common level, even for ordinary leveling purposes. It will at once show the exact height in inches and degrees needed to block up to a true level. The chief distinguishing feature of the Combined Level and Grade Finder, however, and that which gives it its great value, is the graduated dial with the pointer on the side of the level. This dial makes the instrument serviceable for all forms of carpenters' and mechanical work, and for all forms of grading, landscape gardening, excavating, etc., it enables the ordinary laborer to do work which otherwise often requires the expense of a civil engineer. Moreover, the dial in connection with the spirit level makes the instrument a double proof of accuracy, both for horizontal and vertical positions. A booklet of 24 pages, thoroughly indexed, is sent with every instrument. This book-



TOP VIEW

let contains a number of cuts illustrating the use of the instrument in carpenters' work; in plumbing, drainage, getting the height of objects, finding length of base line and slant lines, where the perpendicular is known; also the perpendicular when either the base or slant is known, and a number of other uses. It is simple in construction, not liable to get out of order, and in case any part should be broken it can readily be replaced. The low price at which it is marketed brings it within the reach of all mechanics and workmen who would be equipped with up-to-date instruments. Write for book of testimonials.

Artistic Hardwood Mantels

"Science of Mantel Making" is the title of a large and very handsome catalog recently issued by the Central Mantel Co., of St. Louis, Mo. In this catalog is shown and described a beautiful variety of wood mantels and fireplace trimmings, presented as a suggestion of the artistic effects possible in mantel production. Those who carefully examine this immense catalog, with its large number of faithful and artistic illustrations, will reach the conclusion that its publishers and the manufacturers of the mantels portrayed have reduced mantels to something closely approaching one of the exact sciences. Art, and that of a high order, is displayed on every page, yet the variety presented is so great that the eye does not weary nor the attention flag. No mansion is so fine but what it might well be embellished and beautified by a mantel, or several of them, selected from this book. The Central manufacture a very high grade of mantels, and in workmanship and finish they excel. The high quality of their product and their fair dealing with their patrons has enabled this company to build up a very large and extensive catalogue business. They are daily shipping mantels and fireplace trimmings to all parts of the United States and Canada. No builder should be without a copy of this catalog in his files, and no home builder should complete his home without first securing and carefully examining this catalog.

The Nodamp Two-Piece System

The Nodamp Concrete Block Machine Co., of 2711 Northwestern building, Minneapolis, having acquired the U. S. patents on the Ames "Nodamp" concrete block machine, as well as the patents for the "Nodamp" block and wall, have opened offices at the above numbers, and will vigorously push the merits of the "Nodamp" system. F. W. Tidball is president and Chas. E. Brewster secretary and treasurer. Both are well-known Minneapolis business men. They claim great superiority for their "Nodamp" two-piece wall, because it gives a wall with a continuous vertical and horizontal air space throughout, making it absolutely moisture and frost proof. This system has no concrete webs or overlapping blocks to conduct moisture and frost to the inner surface of the wall, making it possible to safely plaster directly on the wall, thus saving the expense of furring and lathing and one or two coats of plastering. The outer and inner walls are laid up in separate pieces firmly bound together by indestructible metal bonds inserted in each block when made. This gives a block easily laid in the wall by one man—a great advantage over the heavy block made in one piece, requiring two men to handle them. The "Nodamp" block machine makes blocks from two to eight inches thick, making it possible to build a wall of any desired thickness. The outside block may be made of a greater proportion of cement and fine sand to make a smooth, handsome face, and the inside block may be made of coarse sand, gravel and cobble or broken stone, any size that will go in the mould. One machine is sufficient for all kinds of blocks, being quickly changed from one style or thickness to another. The joints of inner and outer wall are always broken—a very desirable feature not possible with a hollow block or air-space block with parts bound together when

Classified Advertisements.

Advertisements under this heading will be inserted at the following rates:

One month	$0.45 per line
Three months	1.25 per line
Six months	2.25 per line
One year	4.25 per line

Count 10 words to the line. Situations wanted one-half above rates. Replies may be addressed in our care and will be promptly forwarded.

Help Wanted.

WANTED—Carpenters to read our ad. on page 165. Gage Tool Co.

LUMBERMEN WANTED—In all branches of the lumber trade positions are open and waiting. If you are open to engagement or advancement with a good company let us represent your interests. We have written agreements with over 600 gilt-edge lumber concerns in the United States, Cuba, Canada and Mexico. 5,000 lumbermen indorse our methods. We guarantee positions to men of ability in the following: Superintendents, Saw and Planing Mill Foremen, Inspectors, Yard Managers, Machinists, Logging Superintendents, Sawyers, Filers, Managers, Estimators, Buyers, Salesmen, Draughtsmen, Bookkeepers, Office Managers, Stenographers, Woodsforemen, etc. Write us today, enclosing stamp, for full information. Mason's Agency, Nashville, Tenn.

Miscellaneous.

LEARN CEMENT CONSTRUCTION in all its branches for $1.50. Building Blocks Water Proof, white or any color. Bridges, Roof, Floors, etc. Write for descriptive circular No. 30. Cement Institute, St. Louis, Mo.

WATER WORKS IN YOUR HOME. If you live in the Country you can have Hot and Cold Water in Kitchen, Laundry and Bathroom. WATER UNDER PRESSURE for stock at the Barn, to sprinkle Lawn and Garden. A PERFECT PROTECTION *in case of fire*, and always ready for instant use. Write for an estimate of cost of the "BEST" Water System. JOHNSTON MFG. CO., 913½ Main St. Kansas City, Mo.

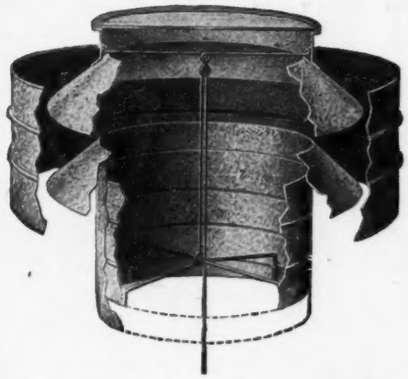
made. The "Nodamp" block machine is well and carefully made and practically indestructible. No iron pallet required; simple wooden pallets made on the ground are all that is necessary. Blocks are made with great rapidity on the "Nodamp" machine, and delivered at a convenient height to be reached and carried away by one man while another block is being made. No cores; no jarring or pounding; consequently no broken or cracked blocks with the "Nodamp" system. The block, the wall and the machine are fully covered by U. S. patents, giving protection to all purchasers of machines and owners of buildings constructed under this system. By making openings into the air space from basement and rooms a building can be easily and thoroughly ventilated. This company handles the "Ames" cube mixer, one of the cheapest and most convenient batch mixers on the market. They also sell the "Dumor" (do more) air-cooled gasoline engine, which is really a wonder, as it weighs less than 300 pounds and develops fully two-horse power. The "Nodamp" block machine was demonstrated at the recent cement conventions at Chicago and St. Paul, and received the enthusiastic approval of a great many practical buliders and concrete block makers and building inspectors. On another page you will find the "Nodamp" advertised. Parties interested will find it to their advantage to write or call on the Nodamp Concrete Block Machine Co. regarding block machines and mixers.

Galvanized Shingles

There is a growing demand for galvanized shingles. Heretofore the objection to this form of roofing was that in the process of stamping the galvanized coating cracked and scaled off, leaving the iron exposed, and corrosion would follow in a short time. However, this objection has been completely overcome by a prominent roofing concern, the Montross Metal Shingle Co., of Camden, N. J. After many experiments they have finally produced galvanized metal shingles which are first-class in every respect. The shingles manufactured by this firm are made of prime tin plates and galvanized after they are embossed and formed, thereby overcoming the above-mentioned fault of cracking and scaling. By this new method the Montross people are able to produce handsome and durable galvanized metal shingles which require no attention and which will practically last as long as the building itself. If you are interested in roofings we believe it would be to your advantage to write for their illustrated catalog.

Gasoline Engines

The light and very powerful gasoline engine is the result of a great expenditure of effort and money by the gasoline engine builders, and they must be credited with a great service to the world; for this development of light, high-powered motors is now beginning to work great changes in contracting methods. It is safe to say that the next few years will make our present methods of building look very much out of date. As the light and powerful gasoline motor is to be the foundation of these changes, let us examine some of its principles, as demonstrated by the gasoline engineers. These principles are clearly set forth in the new 1907 catalog of the Mecklenberg Gas & Gasoline Engine Co., South Bend, Ind. By dropping a card to this firm you will get a clear and concise treatise of their engine, as compared with other engines on the market. This catalog gives such an accurate description of the engine that the prospective purchaser may be enabled to compare the Mecklenberg engine intelligently with engines of all the other makes. The description in this catalog may be relied upon as accurately and honestly stated. Every engine and accessory sold by this



Notice Sliding Sleeve Damper. Patented.

Why the Burt Ventilator is the recognized superior of every *other* Ventilator on the Market:

The "reasons why" are in our 64-page general catalogue—a complete exposition of the Burt Ventilator features which will be mailed free to any address on request.

But still more conclusive is the ***proof*** which is found in the roster of those who have paid the Burt Ventilator the tribute of exclusive use.

Most of the following firms have expressed their satisfaction with the Burt Ventilator by sending us ***repeat orders*** far in excess of the original installation.

Standard Oil Co., N. Y. City.
U. S. Steel Corporation, Pittsburg, Pa. (6)
Florida East Coast Ry. Co., Miami, Fla. (48-24 in.)
Beckett Paper Co., Hamilton, O., (6-60 in.)
United Verde Copper Co., Jerome, Ariz. (9)
Libby, McNeill & Libby, Chicago, Ill., (11-24 in.)
Consolidated Gas Co., N. Y. City, (2-36 in.)
Buckeye Engine Co., Salem, O., (4-30 in.)
C. P. Taft's Residence, Cincinnati, O., (3-20 in. and 1-24 in.)
J. G. White & Co., N. Y. City, (6-36 in.)
Northwestern States Portland Cement Co., Mason City, Ia., (18-24 in.)
Santee River Cypress Lumber Co., Ferguson, S. C., (4-48 in. and 4-36 in.)
Magnet Knitting Mills, Clinton, Tenn. (13)
Wm. J. Lemp Brewing Co., St. Louis, Mo., (2-30 in.)
Wm. J. Oliver Mfg. Co., Knoxville, Tenn., (8-30 in.)
Stuart W. Cramer, (Mill Architect,) Charlotte, N. C., (9-12 in.)
Raritan Copper Works, Perth Amboy, N. J., (2-48 in. and 2-16 in.)
Pioneer Cotton Mills, Guthrie, Okla., (7-30 in., 5-20 in. and 4-12 in.)
Rhodes Mfg. Co., Lincolnton, N. C., (15-24 in.)
Mallison Braided Cord Co., Athens, Ga., (15-20 in.)
Waxahachie Cotton Mills, Waxahachie, Tex., (10-30 in.)
Crown Cotton Mills, Dalton, Ga. (15-30-6-24.)

For our general catalogue and any further information wanted, address

The Burt Mfg. Co., 500 Main St., Akron, Ohio.

Largest Manufacturers of Oil Filters and Exhaust Heads in the World.



Notice Sliding Sleeve Damper. Patented.

firm is covered by an absolute guarantee. Only the best quality of materials is used. All iron castings are made of the finest cast gray iron. The bearings at the wrist pin are of genuine babbitt and the upper end of the connecting rod is phosphor bronze. The main shaft bearings are of genuine babbitt and can be replaced easily when necessary. All small parts subject to much wear are made of tool steel and hardened. The crank shaft is made of forged steel in one solid piece; also the connecting rod is of forged steel. All parts are machined to jigs and standard gauges and consequently are absolutely interchangeable. One of the distinguishing features of this engine is the simple and positive governor. You will find a view of this engine on page 146. All inquiries from our subscribers will be promptly and courteously answered.

A Big Window Frame Plant

Every builder is realizing the necessity of substituting some wood for white pine for use in window and door frames, owing entirely to the advance price demanded for white pine today. The Malta Manufacturing Company, of Malta, O., are in a position to supply such a demand. That they are on the ground with a frame equally as good as white pine can not be successfully refuted. They offer you white spruce, poplar, or yellow pine, and by systematic advertising and allowing only a high quality of work to leave their plant they are forging to the front. Their capacity for frames alone is 200 window frames per day, and steadily increasing.

They are also the largest manufacturers of hand turned oak and yellow pine balusters in the business, and in order to convince the skeptical that they are strictly hand turned they will furnish any ordinary pattern at the same price as their stock pattern. They are also prepared to furnish any other stock in the millwork line from oak to maple flooring to all kinds of finish, and give you service the equal of any other concern. Their poplar baluster and porch rail business is enlarging over last season for reason of the high quality produced.

They firmly believe their success is assured, as they have evidence of their customers' satisfaction in every particular, and a satisfied customer they consider a most valuable asset.

Bother them all you can is all they request.

A New Line of Mantels

The Toledo Mantel & Tile Company, of Toledo, O., have in their new spring line comprising the newest and best sellers on the market. The demand for their goods has already reached a point beyond their highest expectations, and it would be policy for those contemplating the purchase of a mantel to get their orders in early. Their coal and gas grates are models of beauty as well as of the very best manufacture, and as for durability, they cannot be excelled. Their samples of tile for floors and mantels comprise some very beautiful colorings and designs.

Petz Patent Store Front Construction

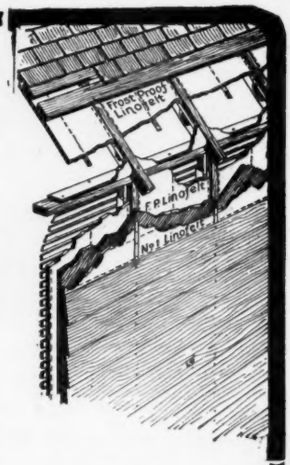
The merchant is, after all, the ultimate court of resort in any proposition which is presented for securing better display facilities. The architect may endorse a plan, the builder may recommend it, but if the merchant does not perceive its possibilities it will have very little future. The Petz Patent Store Front Construction, invented by John Petz, president and superintendent of the Detroit Show Case Co., was placed on the market just two years ago as a side line of the Detroit Show Case Co. Today a special factory building is required for its manufacture, so great is the demand for it. This popularity can be traced to the fact that it has made good in no uncertain way. It is the one patent store front construction which permits broken glass being replaced without disturbing the window display or removing the window

YOU CAN BUILD YOUR HOUSE BUT ONCE

SO have a care how you build it. Don't try to practice economy by letting price instead of quality influence selection of materials.

Use good materials all through. To save on first cost usually means to pay the difference many times over in the years that follow.

For example, every house should be covered from foundation to ridge-pole with



LINOFELT

Linofelt will keep your house warm and comfortable in winter. It will save more than its entire cost in your heating expense. Linofelt will keep your house cool in summer, too, for Linofelt is the best non-conductor of heat and cold made.

It will cost you a little more, but, by actual test, quarter-inch Linofelt has been proven to resist the passage of heat 40 per cent more than ordinary rosin-sized building paper.

Linofelt is made of **degummed flax fibre** encased between two sheets of rosin-sized paper. Degummed flax fibre is the fibre of flax straw from which all the gum has been extracted, leaving millions of minute air spaces, through which heat or cold passes only with greatest difficulty.

Linofelt is like a blanket, and it's warmer than any blanket you ever saw. ¶ It is clean, antiseptic and odorless, and is vermin proof. ¶ This testimonial is like hundreds of others in our possession, telling what users think of Linofelt.

IVES GROVE, WIS., January 28, 1907.

UNION FIBRE COMPANY, Winona, Minn.

Gentlemen:—I have your letter of recent date, inquiring as to results obtained from your No. 1 and "Frost Proof" Linofelt, and in reply will say that we have used this for three winters in the house and for two winters in the barn. Our two large rooms are 44x18 feet, 9½ feet high, and we have only used one large base-burner stove and in the coldest days we have had (being 28 degrees below zero), the further end of the room was never colder than 58 degrees.

In the barn, which is 62x38 feet, with cement floor, and an eight-inch air space, we have also used this material, and find that the barn is never colder than 38 to 40 degrees above, with the cattle and horses therein. In this barn we have King's system of in and out ventilation, so that the barn is absolutely odorless. I would recommend your materials to every one wishing a warm building of any kind. I am now going to erect an ice house for farm purposes, and also a home creamery, and will use your materials throughout.

Very respectfully yours, C. O. OLSON.

Send for free sample and booklet which tells more about Linofelt, and more about its uses. It's just the thing, too, for barns and poultry houses.

UNION FIBRE CO. 106 Mechanic St. WINONA, MINN.

ANDREWS HOT-WATER HEATING

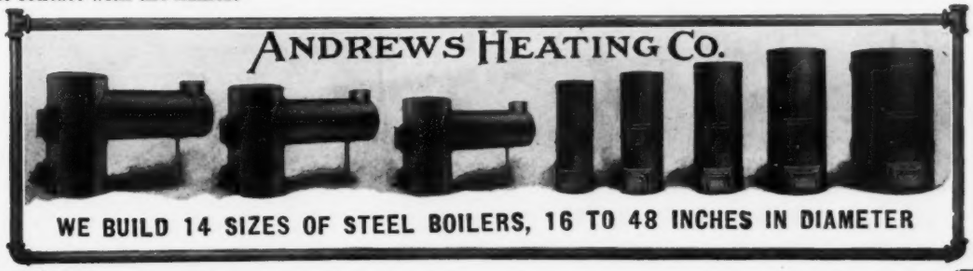
TALKING ABOUT BOILERS——

This is a talk about boilers—built particularly for low pressure hot-water heating—boilers made by the thousand and sold everywhere—for "We do it right in 44 States, Canada and Alaska."

Our business has been built up upon three facts. The saving in "selling direct to user" is ***one,*** The Andrews Regurgitating Safety Valve System of Piping is ***two;*** and our Steel Boiler is ***three.*** Regarding ***one*** and ***two*** we refer you to our Book, "Home Heating."

This is an invitation to you to discuss boilers with us for two minutes. The Andrews Steel Boiler,—built in two styles, vertical and locomotive type, as shown—is in 14 sizes, ranging from 16 to 48 inches in diameter—a range of sizes which insures the highest efficiency for residences, stores, bank buildings, etc. Both styles are made from 60,000-pound-tensile-strength flange steel, identically the same in quality and weight as is used for large steam power boilers. The design is such as to produce maximum heating efficiency, strength and durability; the thinness of surfaces between the water and the fire making the water heat very rapidly. Every boiler is rivited and calked by machinery and tested to 80-pound hydrostatic pressure. With reasonable care the Andrews Steel Boiler will last as long as the house.

The fire-pot of the Andrews Steel Boiler is deep, ample in capacity for a steady fire, with combustion chamber large, allowing gases to mingle and burn before passing into the flues, also exposing a large amount of heating surface to the direct contact with the flames.



WE BUILD 14 SIZES OF STEEL BOILERS, 16 TO 48 INCHES IN DIAMETER

THE THEORY. According to the established theory, the more rapidly the water circulates in a boiler, passing near the fire, the more heat will it carry off into the heating system. The purpose, therefore, should be to divide the water in the boiler into as many thin bodies as possible, thus producing rapid and uniform circulation. In the Andrews Steel Boiler this is effected by what may seem an excessive number of flues. Actual tests have demonstrated that through the abundant surface is absorbed all the heat, beyond what is required to promote proper drafts. On account of the small volume of water coming next to the fire, small bubbles of steam are formed, promoting rapid circulation and giving great heating efficiency to the plant.

STEEL BOILERS—and others. Steel boilers have two important elements of superiority. Steel boilers will not crack, as cast iron boilers do. The makers of cast iron boilers urge as a claim of superiority that a cracked cast iron boiler section can be easily replaced. They do not deny that their boilers crack frequently. But, we ask, how much better is a ***steel boiler*** that ***never cracks?***

Cast iron is subject to flaws and blow-holes, and hence must be cast much thicker than is rolled steel plate, which is uniform in quality and is of much greater tensile strength. For this reason a steel boiler's thin shell is not only safer than a cast iron boiler, but its power to carry into the water the heat of the fuel quickly is in proportion to its thinness—generally more than three to one.

The Andrews Steel Boiler's "factor of safety" is 10 or more—in other words, every part is 10 times as strong as necessary for perfect safety. This is a point to remember.

OPINION OF THE BOILER INSPECTOR

Mr. William Sage, of Minneapolis, a professional Boiler Inspector well known all over the Northwest wrote, as follows:

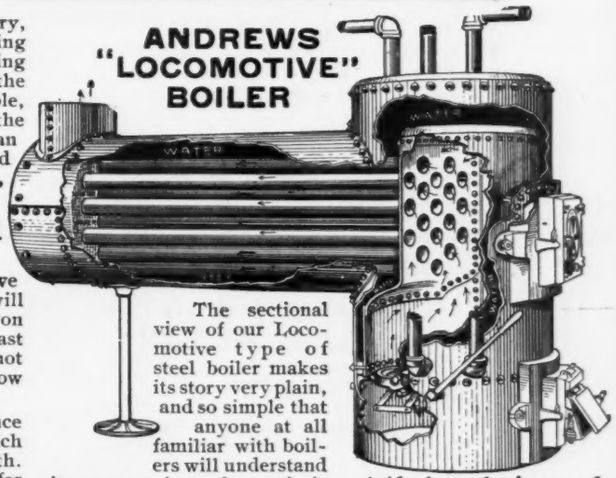
"Replying to your inquiry regarding the heating plant purchased of you; I would say that during the coldest weather we have had no trouble in maintaining an even temperature throughout the house both day and night.

Owing to the scarcity of hard coal, I have used coke, pea coal, lignite, and soft coal, with some wood, and the boiler works satisfactorily with any of this fuel.

I consider the boiler a very durable and economical one in every way. The boiler being built of steel, the material and workmanship being first-class throughout, it should give good results for a number of years.

The entire plant works noiselessly and is perfectly satisfactory in every way. I would suggest that you see my neighbor, Judge Ueland, who has examined the plant and is very much pleased with it."

ANDREWS "LOCOMOTIVE" BOILER



The sectional view of our Locomotive type of steel boiler makes its story very plain, and so simple that anyone at all familiar with boilers will understand its many points of superiority. Aside from the increased efficiency due to the larger number of flues and the greater amount of heating surface exposed to the flames and heated gases, it is often preferred because it does not require so much head room as a vertical boiler. It is very easily cleaned with a flue brush—and a boiler with clean flues is twice as effective as one covered with soot.

Among the purchasers of Andrews Systems are a number of boiler insurance company men—expert in the boiler line. Said one of these:



"You couldn't sell me a cast iron hot-water heater. I would hardly care to install one as a gift, because of the slowness of the heat transmission and the liability to crack—not to speak of explosions, that as an inspector I know of more frequently than the public."

DON'T DROP IT THERE

We want you to get the book "Home Heating." It contains 72 pages on this subject of boilers, radiation, heating problems and facts which you may want to know about. It gives names of users—perhaps some known to you.

We will send it free for the names of two persons likely to be interested in the purchase of a heating plant.

509 Heating Bldg. MINNEAPOLIS

ANDREWS HEATING CO.

556 LaSalle Bldg. CHICAGO

enclosure. The glass is set from the outside. This advantage makes strong appeal to the progressive merchant. It is exactly what he has been loooking for for years. A store front may not be broken in twelve months, but when it is broken, the necessity for quick action is apparent. The Petz Patent Store Front Construction permits a quick replacement and yet it is so strong and rigid in construction that it would support the awnings without any undue strain. The Detroit Show Case Co. recently issued a little book entitled "A Profitable Corner," which completely describes the Petz Patent Store Front Construction. They send this free to all merchants interested. Write them. Address, Detroit Show Case Co., 476-490 West Fort Street, Deroit, Mich.

The Noble Cement Mill

The lower sacks in a car of cement (and most cement is shipped in sacks) become hard or caked, caused by the jar of the car and the pressure of the sacks piled upon each other, or the same conditions may arise from long storage in warehouses. Even when manufacturers buy in car load lots some is quite liable to become hard and lumpy.

Cement improves with age, therefore old cement that has been properly stored is better than new cement and the caked or lumpy condition is no detriment provided it has not been wet.

Cement users, especially engineers, understand the loss there is in using lumpy cement, the loss in many cases being as high as 25 per cent in the strength of finished concrete. The lumps do not blend with the sand, coating each grain, but simply become hard lumps of neat cement as soon as water strikes them, worth just their size in broken stone or gravel and no more.

With lumpy cement the finished work is spotted and unsightly, especially where a troweled finish is desired. The Noble Cement Mill will absolutely reclaim lumpy or old cement (that has not been wet) making it as soft and fluffy as the newest, no dust, no waste. It is easily operated, saves time as against riddling, raises the effective value of the cement and the general appearance of the product.

No man who handles cement for any purpose should be without a good hand mill to regrind his cement. It pays. Write the Noble Concrete Machinery Company, Fostoria, O., for further particulars.

Birchwood Colored Through

On another page will be found an advertisement from Stockholm, Sweden, of something new in the way of colored woods. By their method the wood is dyed by forcing the color by means of a strong pressure into the freshly cut log, from one end to the other, the color thus taking the place of the sap. The wood is then sawed into boards or cut into veneer. By this process not only the very beautiful grain of birchwood is retained but very much enhanced. The new elegant colors thus secured offer far greater possibilities for architects and builders.

The manufacturers are looking for agents in America and issue a very interesting pamphlet with eight samples of their product in different colors. This should interest the readers of the AMERICAN CARPENTER AND BUILDER in different parts of the country and we would suggest that they write for further information to Stockholms Trafargnings Aktiebolag, Stockholm, Sweden.

Genuine Swede Iron Shingle Nails

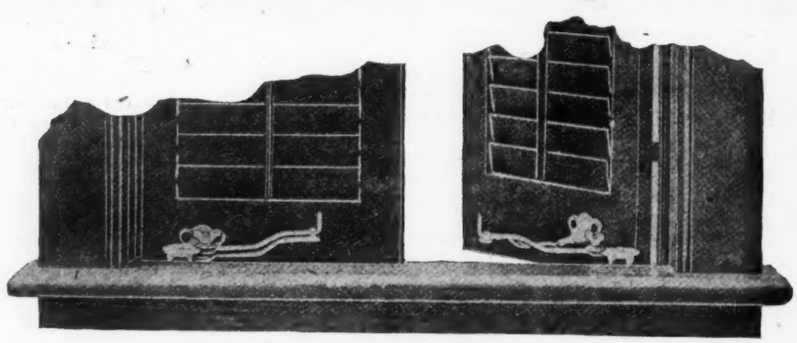
Messrs. Henry J. Miller's Sons, of Bridgewater, Mass., have sent us some letters, showing how hard it is to obtain genuine Swede iron shingle nails. This company makes a specialty of this shingle nail. They write:

"We guarantee to every man that our nails are the genuine Swedish iron nails and will forfeit $100.00 to every man getting nails from us that are of different than above, under

"A Daily Comfort" "A Protector in Time of Need"

The Garside Blind Adjuster

Neat, Strong, Durable and Moderate in Price



With this device blinds will not rattle and can be adjusted at **any angle.** Mere closing of the blinds **automatically locks them.** The Garside Adjuster is the enemy of sneak-thieves and a blessing to the householder. Delivered one pair to a box.

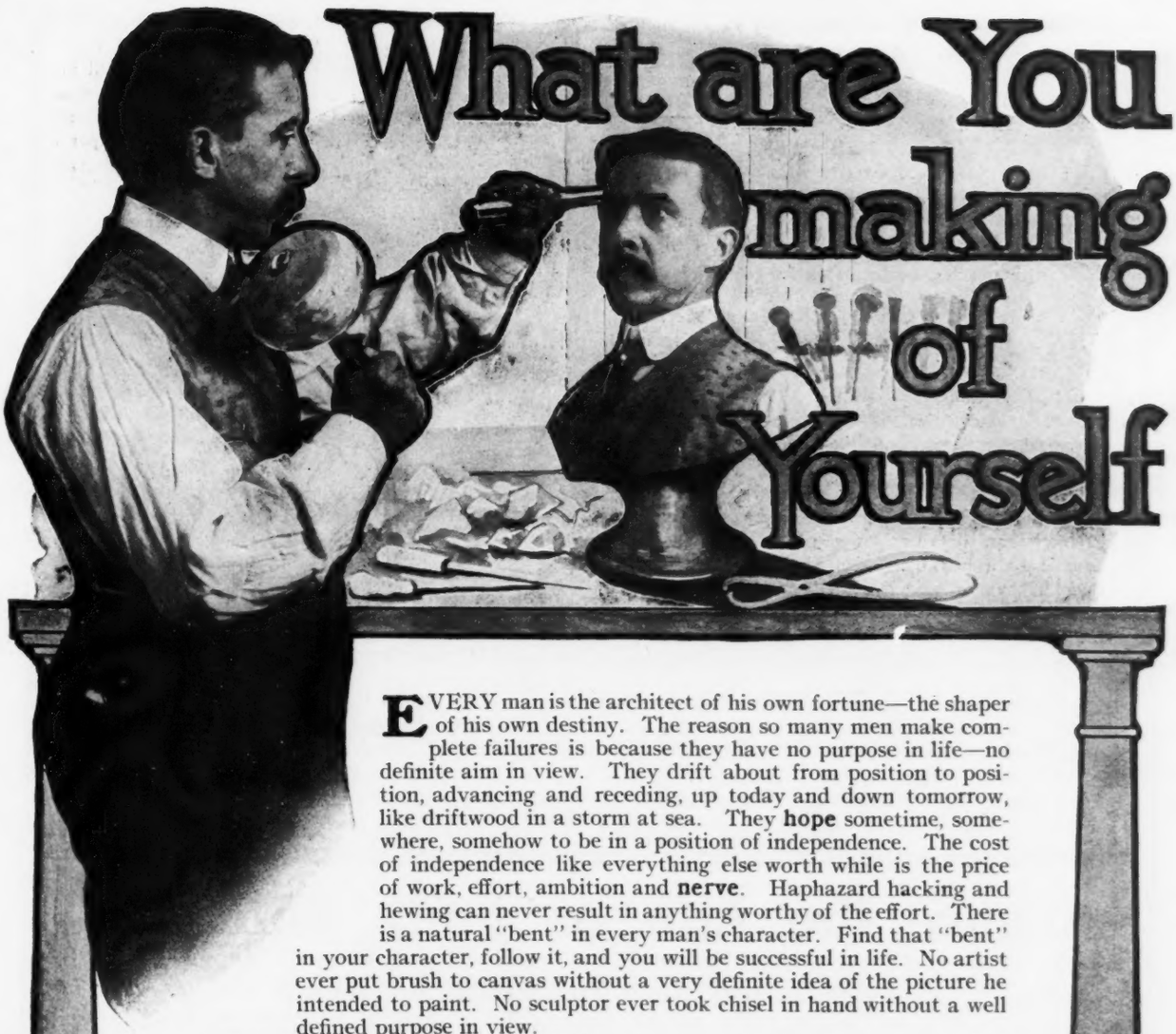


Put on in one-fifth the time [necessary with any other adjuster on the market.

It is your interest to investigate our claims. Will you drop us a postal

NOW?

B. GARSIDE TAYLOR
General Selling Agent
Room 18, 13 to 25 Astor Place - - NEW YORK



What are You making of Yourself

EVERY man is the architect of his own fortune—the shaper of his own destiny. The reason so many men make complete failures is because they have no purpose in life—no definite aim in view. They drift about from position to position, advancing and receding, up today and down tomorrow, like driftwood in a storm at sea. They **hope** sometime, somewhere, somehow to be in a position of independence. The cost of independence like everything else worth while is the price of work, effort, ambition and **nerve**. Haphazard hacking and hewing can never result in anything worthy of the effort. There is a natural "bent" in every man's character. Find that "bent" in your character, follow it, and you will be successful in life. No artist ever put brush to canvas without a very definite idea of the picture he intended to paint. No sculptor ever took chisel in hand without a well defined purpose in view.

What are you making of yourself? In your father's time the man who failed to get an education in his youth was handicapped for the rest of his life. That was before the day of the Correspondence School. **Now** all that you need to do to become master of a trade or profession of your own choice is merely to let us know your natural "bent" and let us develop it for you.

The Carpenter of today cannot "get along" with the old "rule of thumb" methods. His calling is one where science and skill play vitally important parts. Not only must the successful Carpenter, Contractor and Builder know every detail of his own work but he must also be familiar to a marked degree with the other trades, such as:—Masonry, Electric Wiring, Plumbing, Gas Fitting, Heating, Ventilating, Cornice Work, Skylight Work, Roofing, etc. Don't be content to let others advance *over your head. Be a success.* First, choose your trade or profession—then master it. Don't overlook any help that is offered you.

WE EMPLOY NO AGENTS to bother you with repeated calls at your home or place of business. We talk to you only by mail. The money you pay us is not used to maintain an expensive organization of high-priced agents, but is used to give you better instruction at a lower cost.

Tell us what course you are most interested in, and receive free (if you mention American Carpenter and Builder) our 200-page hand-book fully describing it.

. . .Architecture.	. . .Electrical Engineering.	. . .Mechanical Drawing.
. . .Carpentry.	. . .Structural Engineering.	. . .Heating, Ventilating and Plumbing.
. . .Contracting and Building.	. . .Steam Engineering.	. . .Telephone Practice.
. . .Concrete Engineering.	. . .Locomotive Engineering.	. . .Telegraphy.
. . .Sheet Metal Pattern Drafting.	. . .Marine Engineering.	. . .College Preparatory Course (fitting for entrance to engineering schools.
. . .Civil Engineering.	. . .Electric Railways.	
. . .Mechanical Engineering.	. . .Electric Lighting.	. . .Textiles.

AMERICAN SCHOOL OF CORRESPONDENCE

CHICAGO, ILL.

American Carpenter and Builder, *April*, '07

the name of 'Weatherproof'—we make no other kind of shingle nails, therefore, this alone is a guarantee of the quality."

They also send us two letters they have recently received, as follows:

Madison, Ill., May 28, 1906.

Henry J. Miller's Sons, Bridgewater, Mass.

Gentlemen: I saw your ad. in the paper last May. I would like to get some of your nails. They are not to be got in St. Louis. Please tell me where I can get them, or send 200 pounds 4 penny C. O. D. as quickly as possible as I am building a good residence and have it ready for the roof now. Your prompt attention will greatly oblige.

Yours truly, J. R. BEALE.

Mattapoisett, Mass., Dec. 12, 1906.

Henry J. Miller's Sons, Bridgewater, Mass.

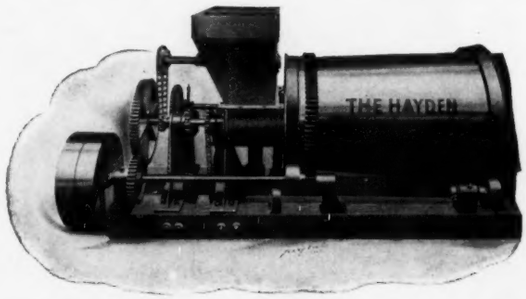
Gentlemen: I saw in the AMERICAN CARPENTER AND BUILDER an ad. for Swede iron shingle nails. We in Mattapoisett have a great deal of trouble with shingle nails. It is so near the salt water. What price per keg and what can you say about them? The best galvanized shingle nails do not last more than three or four years. It seems as though there should be a nail that could be made to last longer than that. I have nails on one part of my house roof that was put on in 1866. They seem to be good yet.

Please write me what you know about your nails, and oblige, Yours truly, J. S. DEXTER.

A New Type of Concrete Mixer

The illustration below shows the new type of mixer which is now being placed on the market by the Hayden Automatic Block Machine Company, of Columbus, O., makers of the well known Hayden Down-Face Block Machine.

This machine, as the cut will show, is simple in design, correct in construction, and competent judges claim has reached the highest point of efficiency for mixing concrete of any machine now on the market. It is quite rapid in its work, and at the same time is very precise in proportioning the proper mix. One of its attractive features is that the character of the mix, or the consistency of the output can



be easily regulated, and either a dry mix or a wet one produced, whichever is required for the character of work being done.

The machine is meeting with great favor with every one that is interested in up-to-date concrete machinery.

The 1907 Peerless Brick Machine

In the beginning of 1906 the Peerless Brick Machine Company decided that a medium priced machine, with which one man could manufacture regular sized brick from cement and sand would find a ready sale and give general satisfaction. At a result the Peerless Cement Brick Machine was placed on the market. At the end of one year every claim made by the manufacturers has been proven absolutely true by actual experience. In fact, it has been found that the machine is capable of a much larger output than was at first

Insure the Life of your Shingles,

and make them Beautiful by using

DEAN & BARRY'S

COLONIAL SHINGLE STAINS

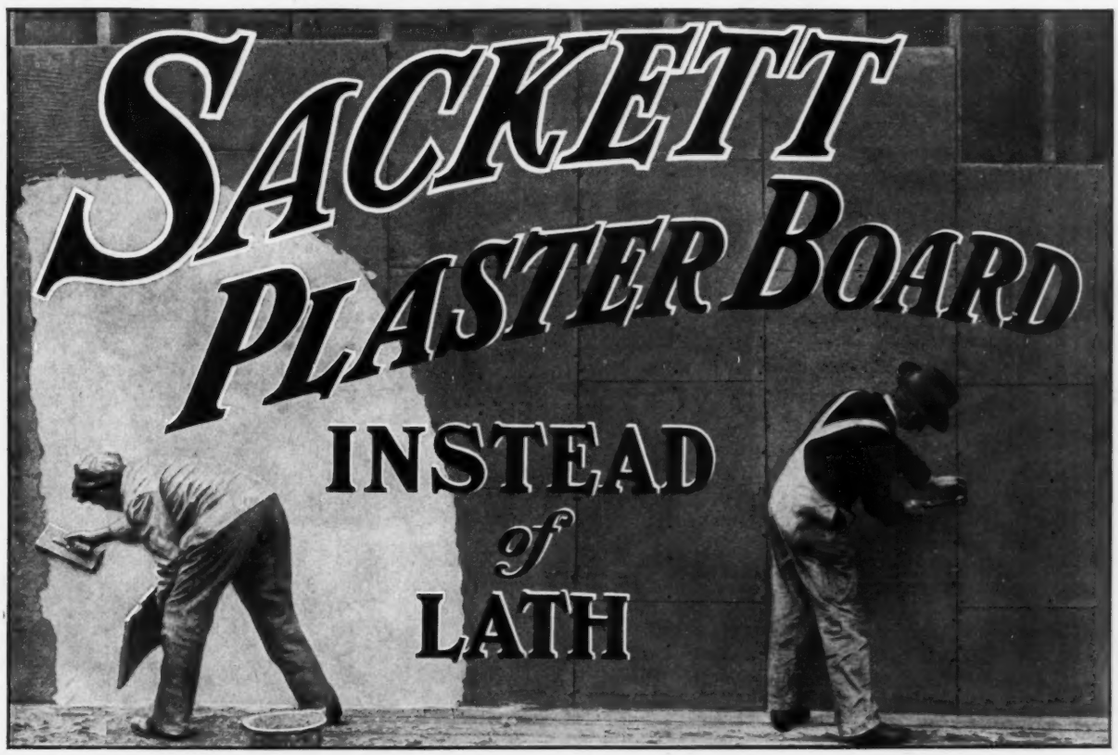
These stains are composed of the best material known for preserving wood from decay and add beauty to the finished work, as the colors are strong, bright and unfading.

Samples and prices furnished architects and contractors on application.

MANUFACTURED BY

THE DEAN & BARRY CO.

COLUMBUS, OHIO



Economy in Building Construction

When you build—whether it be a small cottage or the largest hotel—*use Sackett Plaster Boards instead of lath.* You will *save time in construction,* your walls will be more *fire-proof,* the plaster *will not fall,* and there will be *little* or *no warp to the trim.*

Sackett Plaster Boards come in sheets or slabs 32x36 inches ready to be nailed direct to the studding, furring or beams, presenting a smooth continuous surface to which is applied the finishing plaster to complete the wall, as shown above. The saving in labor makes the improvement not only superior to, but less costly than the antiquated lath and plaster construction.

Sackett Plaster Boards are *not* an experiment. Their value has been proved in *sixteen years of use* where the supply has never yet caught up with the demand. They are used in the greatest hotels in the country, in theatres, apartment houses, churches and residences.

Sackett Plaster board is an efficient and economical fire-proofing between floors and for protecting exposed wooden surfaces. It is also used extensively instead of lumber as outside sheathing under weather boards.

Carried in stock by *up-to-date building material dealers* everywhere.

Illustrated **Booklet** regarding this construction, showing buildings all over the country where it has been used successfully, with **Samples,** mailed free on request to any of the following General Distributers.

UNITED STATES GYPSUM CO.
CHICAGO CLEVELAND MINNEAPOLIS

GRAND RAPIDS PLASTER CO.
GRAND RAPIDS, MICH.

SACKETT PLASTER BOARD COMPANY, 17 BATTERY PL. NEW YORK CITY

supposed possible. The manufacture of 4,000 brick per day by one man on the Peerless is now a common occurrence, and this number is often exceeded by expert workmen. This machine is now in general use all over the United States, and its record the past year demonstrates that it is a machine which no handler of building material can afford to be without. The 1907 Peerless is built on the same general model as the 1906 machine, but it has been placed on a strong iron stand and some other slight improvements have been made.



A few good points of the Peerless Cement Brick Machine are the following: It is operated by one man; it is substantially made of iron and steel; any man can operate it; the brick made are uniform in size and have clean, sharp edges; the brick are tamped by hand, which allows the air to escape, and produces a much firmer brick than can be secured in any other way; the steel on which the brick are faced, is carefully planed so that a smooth faced brick is certain.

As the brick are tamped face down on a smooth steel plate, a rich mixture of any color desired can be sifted in for a face, then backed by a coarser and cheaper mixture, all tamped together and the brick delivered face up. The face brick thus produced, when in a wall, will have the appearance and be far more durable than a pressed brick costing two or three times as much.

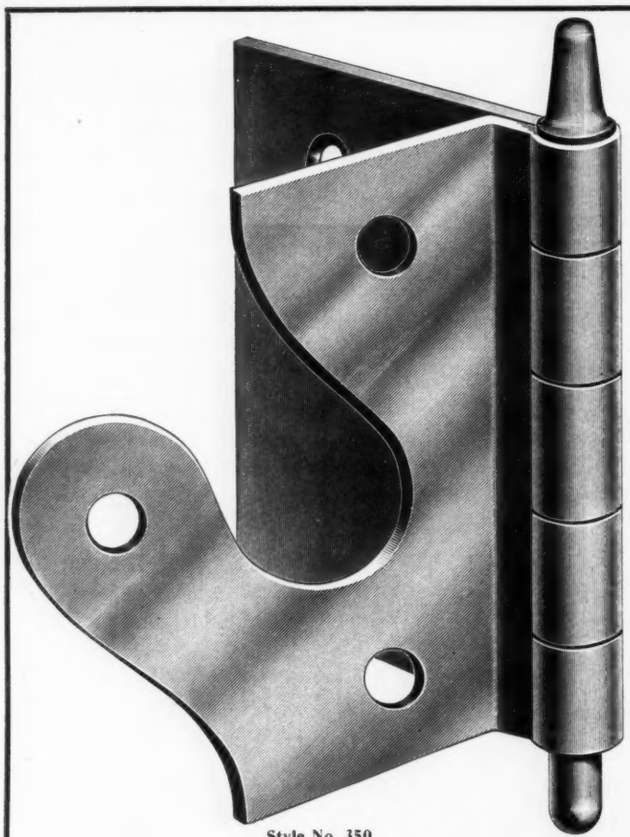
A new catalogue, giving a full description of the Peerless machine, with illustrations of the brick produced, letters from those who have used the machine, and also full instructions for making Peerless brick, will be sent to those writing the Peerless Brick Machine Company, 7 North Sixth street, Minneapolis, Minn.

The Garside Blind Adjuster, and Safety Lock

For the interest of our many readers we take pleasure in illustrating in this issue of our magazine a very interesting, clever and staple device which has recently been patented and is now being placed upon the market by the Garside



Manufacturing Company. This useful appliance is known as the Garside Blind Adjuster and Safety Lock. It can be applied by anyone to any blind in a few minutes, and when once fastened to a blind the blind can be adjusted to any angle desired. It also keeps the shutter from rattling and slamming, as it holds it securely in place. When the shutter



Style No. 350

Our Line of Ornamental Butts and Hinges will

Save One-Half Your Time

in hanging a door. Live contractors and builders are using them exclusively wherever they have been introduced. Will have nothing else. Only one side to mortise. All sizes from 1½ in. to 4 in. Furnished in lefts when so requested. Any finish desired. Small sizes fine for cabinet work. Send for catalogue and give dealer's name.

National Manufacturing Co.
Sterling, Ill.



35 Years of Service

The Weetamoe Mill at Fall River was covered with a roof of Coal Tar Pitch, Felt and Gravel, laid along the lines of THE BARRETT SPEICFICATION, in 1872.

Not until 1903 was any renewal necessary. A part of the roof was then re-covered. The remainder of the roof is still in good condition; has had absolutely no repairs during the entire *thirty-five years*, and gives promise of satisfactory service for many years to come.

BARRETT SPECIFICATION ROOFS are without question the only economical and satisfactory covering for manufacturing plants, where, owing to vapors, acid fumes, etc., the test is most severe.

That owners of large plants generally recognize this is best evidenced by the fact that this style of roofing covers a majority of the manufacturing plants of the country.

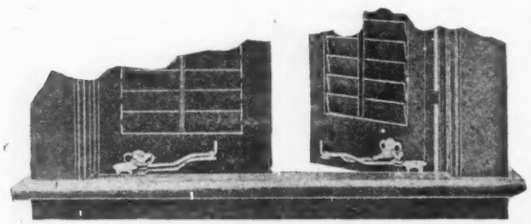
For instance, the General Electric Company at Schenectady, N. Y., has over a million square feet of such Roofs. The immense plants of the Allis-Chalmers Company, The Singer Manufacturing Company, The American Locomotive Works, are other notable examples of the use of this style of roofing by representative manufacturing houses.

To any one interested, we shall be pleased to send a Booklet covering the subject in detail, or to give any information desired.

Barrett Manufacturing Company

New York Chicago Philadelphia St. Louis Cleveland Cincinnati Allegheny
Minneapolis Kansas City New Orleans Boston London, Eng.

is closed it becomes automatically locked, it being impossible, when closed, for any person to open it from the outside by prying upon it, and therefore is burglar proof. By mentioning the AMERICAN CARPENTER AND BUILDER when writing,



the concern will send you one of their neat litttle catalogues. They are the Gars'de Manufacturing Co., 160 Lyon Street, Paterson, N. J.

Screening the Home

Of special interest to you—to all architects, carpenters and builders, at this season, as well as those planning new homes or the summer-comfort of their present homes—is the handsome booklet just issued by the Cincinnati Fly Screen Co., whose advertisement appears on another page.

You want a copy of "How to Screen Your Home." It is helpful, seasonable, full of timely hints and information. The book is sent free to those building homes or needing screens. This enterprising company, whose screens are in thousands of homes, has drawn on its large experience and tellls how you may have a perfectly screened home. It gives instructions for taking measurements for screening the home throughout, and is handsomely illustrated with screens of beauty that harmonize with modern ideas and the modern home; screens that screen—keeping out all insects; screens that combine beauty of design with quality, fit, finish, convenience, lightness, strength, durability, and rust-proof nettings in steel and solid bronze, all of which you will find in these "Cincinnati" fly screens.

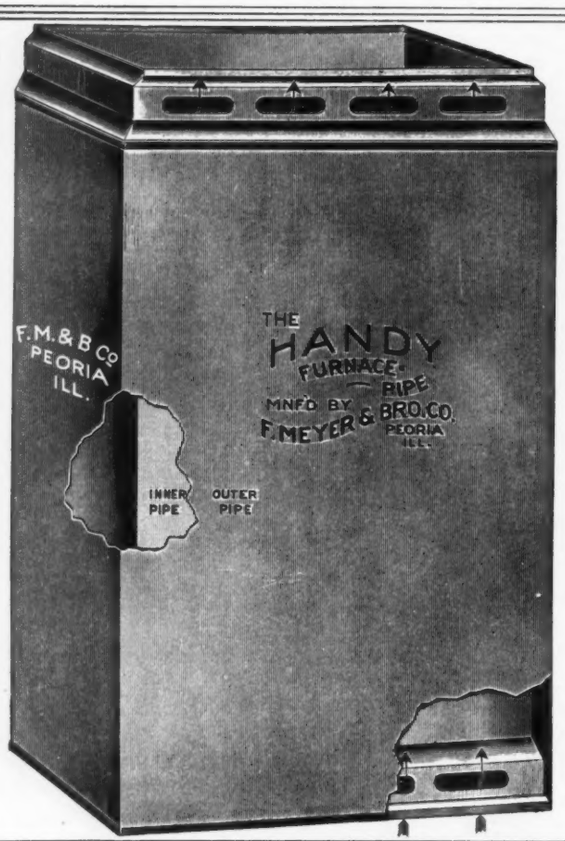
No home you build is complete, comfortable or healthful without well-designed, accurately-fittting screens, and this book tells how to get them.

Thirty days test of "Cincinnati" screens is allowed before payment. Factory prices are given, making these screens the most economical, and freight charges are paid to destination. Among many points of excellence in these screens is the patented self-adjusting spring, giving easy, uniform action, and adjusting the screens to all weathers; strong interlocked frames; mortised and tenoned joints protected by solid wood on all sides; avoidance of swelling and warping; rustless steel and solid bronze nettings—not tacked to frames, but imbedded in grooves and held by countersunk lockstrips, keeping netting taut at all times; metal screen numbers, etc. With new factory buildings, largely increased facilities, skilled workmen and modern equipment, this company cares for the largest or smallest order with equal promptness, ease and accuracy.

There is at this time an excellent opportunity for you. As an enterprising carpenter or builder you can, by writing now, secure the agency of this well-known fly screen company in your section. Write them direct, mentioning this publication. In any event get their new booklet—free to you.

Architectural Sheet Metal Ornamentation

Architectural Sheet Metal Ornamentation, stamped or spun in zinc or copper, may be reckoned among the newest of the practical industries. It must be sharply distinguished from the structural iron and steel work of modern architecture, and is never required to carry any of the loads or strains to which the building is subjected. For the most part it simply replaces at a less cost ornaments and finishings that were formerly made of stone. Its field of useful-



THE IMPROVED

HANDY WALL PIPE

We have changed the style of our Handy Wall Pipe entirely. Formerly the lap was composed of two tongues similar to those of other makes.

Now it has only one tongue, therefore only one point of entrance. This is a new departure and will be appreciated. The large end is $\frac{5}{8}$ in. larger than the small end. The slip is $1\frac{3}{8}$ in. long and so arranged that it tapers down to make an easy fitting joint, but when together it fits absolutely tight and will not come apart.

We invite your inspection and shall be pleased to send samples **free** to anyone inquiring for same. We are prepared to make prompt shipment of the **Improved Handy Wall Pipe** also single and round pipe, elbows, asbestos, registers, etc.

We can save you money. Get our prices and illustrated catalog.

E. MEYER & BROTHER CO.

1111-1313 S. Adams St. and 305-311 Gallatin St.

PEORIA, ILLINOIS



Home of William W. Gillespie, Stamford, Conn.

"Target-and-Arrow Old Style" Tin has covered this house for 35 years

HERE is a roof of our "Target-and-Arrow" tin which has been continuously good since it was first laid in 1871. Thirty-five years of exposure has caused neither rust nor leaks and it is as sound to-day as when first laid. Those who buy "Target-and-Arrow" tin to-day will get the same quality and can expect the same service. They will get a roof that requires no attention except a coat of paint at, say, six or eight year intervals—or even longer. In fact, the intervals between paintings will be found to be longer than most slag and composition roofs will last.



This trademark stamped on each sheet of the genuine, original "Old Style" tin.

Messrs. Macmurphy & Story, of Augusta, Ga., prominent architects in the South, write: "We have had about thirty years' experience in all kinds of roofs and know there is no comparison between a good tin roof and any kind of slag or prepared roofing that we have used."

We want to send to architects, builders and property owners a copy of our booklet, "A Guide to Good Roofs." It is a book of facts.

N. & G. TAYLOR COMPANY

Established 1810. Philadelphia

ness is practically unlimited, including cornices for building and similar ornamental exterior finishings, including cartouches, gargoyles, etc.

Much of the finished work is made by paint to imitate stone, but copper is generally left unpainted, and when weathered to a dark color by oxidation of the exterior surface is beautiful and effective, with no attempt at pretense or imitation. Subject to great variation, it may be said that as a rule stamped architectural copper work costs about one-third and zinc one-sixth that of stone—the cost of erection, durability and all other factors considered.



Sheet Metal Cartouche of Bold Effect.

The accompanying illustration shows the degree of the perfection attained in the stamping of zinc or copper ornaments. The bold effect produced is particularly noteworthy. The cartouche is 30 inches wide and 52 inches high, and is one of the products of the Edwards Manufacturing Co., "The Sheet Metal Folks," manufacturers of the most extensive line of sheet metal building material in the world; main office and works 401 to 417 Eggleston Ave., Cincinnati, Ohio. The company holds that it is the pioneer in the stamping of ornamental sheet metal, and its factory one of the oldest and best equipped in the West, and its force of modelers and stampers has remained practically intact for years. The valuable experience gained in working in conjunction with the leading architects throughout the country is at the disposal of its patrons. In working from original designs, the company states it can guarantee fidelity to model and a strict adherence to the artist's conception.

Write for the Roof Book

The Roof Book covers the whole subject of roofs for residences, barns, cribs, poultry houses, outbuildings, stores and factories. You can get a free copy by simply asking for it.

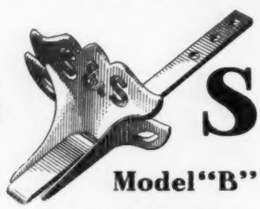
With the aid of the illustrated Roof Book, you can lay a waterproof and fire-resisting roof on any kind of a building and be absolutely sure of a handsome, economical and satisfactory job. The Roof Book tells how to make valleys, gutters, etc. Gives directions for making the cuttings and flashings around chimneys, skylights and fire-walls. How to make all joints water-tight. How to measure a roof. How to cover old shingle roofs. How to make poultry houses vermin proof. No matter what you want to know about roofs, you'll find it all in the Roof Book. It explains the waterproofing, toughening and flint coating processes that make our famous No-Tar roofing safe, durable and economical.

No-Tar roofing is cheaper and better than shingles, steel, iron and other roofing material. Keeps any building warm in winter and cool in summer. Unsurpassed for siding as well as roofs of poultry and stock buildings. It is entirely free from coal tar. Odorless, vermin-proof.

If the old shingle roof on your house or barn is leaky,

The Best Yet

All previous objections overcome

S  S

Model "B"

(Patented Oct. 23, 1906)

Snow Guards



The accompanying cut illustrates Model "A" of the S & S Snow Guards on the main roof, and Model "B" on the porch roof below. They are the most **Artistic** and **Ornamental** in design, excelling in **Simplicity, Strength** and **Durability.** The only Guards having a Double Diverging Brace protecting the outer edges of the Plates from breaking. They cannot be twisted or bent out of their proper shape, having neither Rivets nor Pintles to rust off, severing the Guards. By properly fitting the side slates under the beveled edges the Guards have the support of **Three Slates,** where others have but **One Slate** to rest on. The **Permanent** and **Lasting Qualities** of the "S & S" Guards make them more economical than any other Guard on the market.

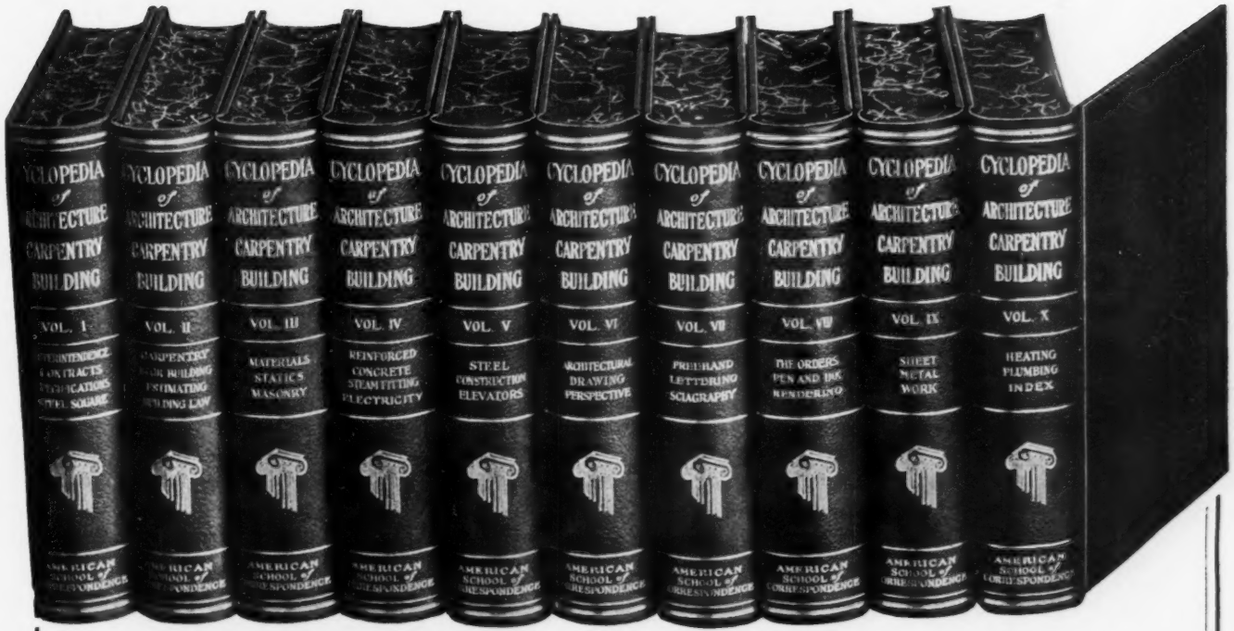
Write for Prices and Booklet telling all about it.

Manufactured by

Henry N. Sieger & Son

Slatington, Pa.

Roofing Slate **Blackboards, Structural Slate, and Roofers' Supplies**



If you are a Carpenter, Contractor, Builder, Architect, Draftsman or Mechanic this advertisement offers you an exceptional chance to advance in your present occupation. You *must* keep up-to-date; you must master the latest methods of construction work; you must absorb all information possible in your own line of business to make a permanent success. The truest test of your present efficiency is the amount of money earned by you from week to week. Unless you are earning money commensurate with your ability, your age, and your condition of life—unless you are advancing and earning *more and more* money as you grow older, there must come a time when younger and more ambitious men will crowd you out. Learn *now* to turn your spare time into money.

CYCLOPEDIA OF
ARCHITECTURE, CARPENTRY AND BUILDING

Published by American School of Correspondence, Chicago, Ill.

is an absolutely new work prepared by a staff of twenty practical writers of acknowledged authority. It is a masterpiece of complete, concise, practical, "ready to use" information. There is not one iota of theory in its 4,000 pages. Every demonstration is derived from the practical experience of the greatest experts in the building industries in the world, such as James C. Plant, Superintendent Commuting Division, Office of Supervising Architect, Washington, D. C.; Walter Loring Webb, Consulting Engineer and Expert on Reinforced Concrete; Fred T. Hodgson, author of "Steel Square," "Modern Carpentry," etc.

The Cyclopedia is compiled from the representative instruction papers of the American School of Correspondence. The first edition is now running on the press, and will be ready for delivery April 15th. We have just been offered a chance to make a big saving in cost by increasing the size of the first edition. Today we ordered 1,000 more sets. These 1,000 sets we will dispose of by a

SPECIAL ADVANCE SALE

Less than One-Third Regular Price **No Money Down**

Ten massive volumes, each nearly one foot high, handsomely bound in red morocco. Over 4,000 pages; 1,900 illustrations, full page plates, plans, sections, etc. Printed on highest grade paper, entirely new type dress—de luxe books in every particular. **All you need do is to ask us to RESERVE a set for you at the**

SPECIAL $19.80 PRICE

The Regular Price is $60.00

April 15th the books will be sent you by PREPAID EXPRESS. If they are worth $19.80 to you send us $2 WITHIN FIVE DAYS, and $2 a month thereafter until paid for; otherwise notify us to send for them. In any case YOU LOSE NOTHING.

Absolutely no reservations accepted if post-marked later than April 15th

AMONG THE CHAPTERS ARE THE FOLLOWING:

Reinforced Concrete Construction—Cement—Testing—Stone—Steel—General Principles—Practical Applications—Centering—Finishing—Carpentry—Hardwood Finishing—Wood Carving—Stair Building—Hand-railing—Superintendence—Estimating Correct Measurements—Contracts—Specifications—Strength of Materials—Law of Contract—Mechanical Drawing—Freehand Drawing—Perspective Drawing—Pen and Ink Rendering—Architectural Drawing—Foundations—Mortars—Cements—Masonry—Bricklaying—Excavating—Electric Wiring—Plumbing—Steam Fitting—Gas Fitting—Heating—Ventilation—Cornice Work—Skylight Work—Roofing—Mill Work—Steel Square Problems—Steel Construction—Burglar Alarms—Door Bells.

AMERICAN SCHOOL OF CORRESPONDENCE
CHICAGO

Mention American Carpenter and Builder, April 1907

better get the Roof Book and learn how you can cover the old shingles with No-Tar roofing, at small expense and avoid all roof troubles.

In addition to the free Roof Book the Heppes Company will send you free samples of No-Tar roofing, and tell you ten ways to test it and prove its superiority.

Send postal for free Roof Book to the Heppes Company, 600 South Forty-fifth avenue, Chicago, and get posted on the roofing question.

Standard Continuous Mixer

The Standard Continuous Measuring Mixer illustrates that it is never safe to say or believe that any mechanical problem short of perpetual motion cannot be solved, for in this mixer has been solved the problem of feeding or mechanically measuring wet sand and gravel, a problem that many engineers and experienced concrete workers have said and believed could not be solved, for the reason that they had never seen a measuring mixer that could be relied on to feed wet sand. While it is universally conceded that there are the same reasons for power measuring that there are for power mixing, it is obvious that a measuring apparatus that cannot be relied on to do its work regularly and accurately under all possible conditions is worse than useless.

In the sand feeding apparatus of the Standard Continuous Mixer this problem has been completely solved, and solved by very simple means. In this machine the side walls of the main body of the sand hopper are all vertical and parallel, so that the sand has no support whatever from any of them, but is supported entirely by the feeding device, which extends and operates over the entire bottom of the hopper. Therefore, no matter what the condition of the sand—dry, damp, wet or saturated—it must always follow down by gravity to the feeding device, which alone supports it, and be fed out regularly and accurately. There are no "agitators" in the hoppers and no "pockets" in the feeding device to partly fill with adhering materials and thus change the proportions of the mixture. The entire machine is very simple and has very few wearing parts, all of which may be easily replaced at small expense. The bearings are protected from grit by shields and felt. All adjustments for varying the proportions and the output are made without any change of gears or sprockets, and without changing the speed of the motor. The mixing apparatus is of the single-shaft "pugmill" type, as this is the simplest and most accessible type for continuous mixing; but instead of the usual wide "flights," or mixing paddles, that merely push the materials along in the trough, they are, in this machine, made narrow, and there are many of them, so they chop, stir, and thoroughly mix the materials. For a portable outfit the mixer and the motor for operating it are mounted on a low truck. That this mixer meets all the requirements of the block and brick maker is shown by the fact that nine of these stationary mixers have been installed, for block making alone, in the one city of Cleveland, Ohio, since last April.

Artistic Interior Decorations

Every architect, contractor and builder is interested in artistic interior decorations. Wm. Foster & Sons, of Springfield, Ill., publish a most complete catalog of the finest metal ceilings and side walls manufactured. There are over 80 pages of fine photographs designed to meet every possible demand of artistic taste. Wm. Foster & Sons are in the front rank of metal ceiling manufacturers, and have been in the business over five years, during which time their business has increased ten fold. They have a modern and

Get This Gold Pair Free



SPECTACLE WEARERS! Listen! I want to prove to you beyond the shadow of a doubt that the Dr. Haux famous Perfect Vision Spectacles are really and truly ever so much better than you have ever used before—and that's the reason why I am making the following very extraordinary but honest proposition, whereby you can get a handsome pair of Rolled Gold Spectacles absolutely free of charge.



HERE IS MY SPECIAL ADVERTISING OFFER:

SEND me your name and address and I will mail you my Perfect Home Eye Tester, free.

Then when you return me the Eye Tester with your test, I will send you a complete five dollar family set of the Dr. Haux famous Perfect Vision Spectacles for only $1, and this will include a handsome pair of Rolled Gold Spectacles absolutely free of charge.

With these famous Perfect Vision Spectacles of mine you will be able to read the finest print just as easy as you ever did in your life—and I will return you your dollar willingly if you yourself don't find them to be the most perfect-fitting, clearest and best you have ever bought anywhere, at any price.

Send for my free Eye Tester today, and address my company as follows:—

DR. HAUX SPECTACLE COMPANY,
Haux Building, St. Louis, Mo.

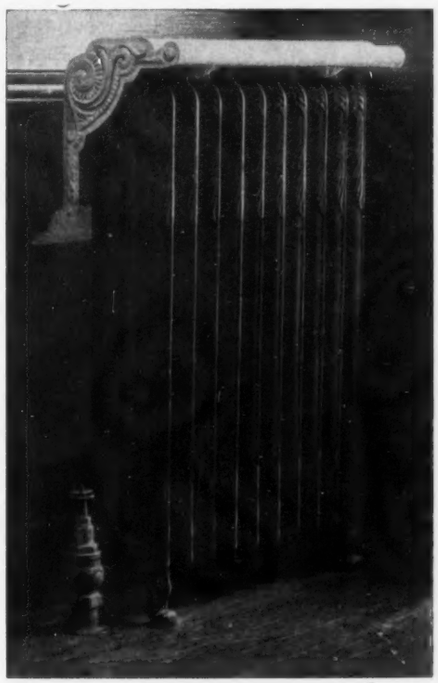
I Want Agents Also

And any one can easily earn as high as $100 weekly, fitting spectacles with my Improved Eye Tester. My agents need no license anywhere in the country, as I furnish necessary documents with agent's outfit.

NOTE.—The above is the largest Mail Order Spectacle House in the world, and absolutely reliable.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

up-to-date plant, operated under a progressive policy of advance, and have exceptional facilities for shipping. Their patterns are all new and original, admitting of the highest degree of ornamentation, and are the outcome of years



of practical experience in the sheet metal business. Every contractor should secure a copy of their catalog before placing his orders.

Slate as a Roofing Material

We are indebted to the American Sea Green Slate Co., of Granville, N. Y. (whose advertisement appears in this issue), for a few ideas on the subject of slate roofing, which may be of interest to our readers.

It is not generally known that slate is one of the oldest forms of roofing material used by man, yet this is the case. Slate for roofing purposes was employed in England, Wales and France as far back as the 13th century, and, strange to say, there are still standing a number of ancient cathedrals, castles, etc., that were slated not less than 350 years ago.

The United States ranks first in the yearly production of roofing slate, the bulk of which comes from Vermont, although slate in limited quantities is quarried in a number of other localities. The slate industries of Vermont are very extensive. Hundreds of men are employed and the quarries have been in operation for nearly 60 years. The process of slate making is quite interesting. The quarries are usually wide openings ranging from 150 to 250 feet in depth. The slate rock is taken in large blocks from the solid rock beds in the lower part of the quarries. It is hoisted to the surface, reduced to the proper thickness by a series of splittings, trimmed to a variety of suitable sizes, and is then ready for the roof without further process of manufacturing. Roofing slate is suitable for use on any kind of a pitched, or even a flat, roof. In the first case the slates are laid substantially in the same manner as wood shingles, and when applied upon flat roofs they are always laid in a composition. Long usage has demonstrated that a slate roof possesses many advantageous features not common to other forms of roofing. On account of its being practically solid rock, a slate roof has a very hard, impervious surface, rendering it both spark and fire proof—a decided



SCHOOL BUILDINGS OCCUPIED ENTIRELY BY THE I. C. S.



The Business of this Place is to Raise Salaries

That sounds queer, doesn't it? And yet there is such a place in reality—The INTERNATIONAL CORRESPONDENCE SCHOOLS, of Scranton, Pa., an institution the entire business of which is to raise, not merely salaries—but YOUR salary.

To achieve that purpose, the I. C. S. has a working capital of many millions of dollars, owns and occupies three large buildings, covering seven acres of floor space, and employs 2,700 trained people, all of whom have one object in view—to make it easy for you and all poorly paid men to earn more.

Every month an average of 300 I. C. S. students voluntarily report increased salaries. In 1906, 3,260 students so reported. These students live in every section. Right in their own homes, at their present work, the I. C. S. **goes to them**, trains them to advance in their chosen line, or to profitably change to a more congenial occupation.

The same opportunity now knocks at **your** door. What are you going to do with it? Are you going to lock the door in its face and lag along at the same old wages, or are you going to open the door and give the I. C. S. a chance to show you?

Here is all you have to do. From this list select the position you prefer and notify the I. C. S. by postal or letter. It costs you nothing but the stamp to learn how the I. C. S. can raise your salary.

To Raise YOUR Salary

Select the position you prefer. Write a postal card to the **International Correspondence Schools, Box 910, Scranton, Pa.,** and ask how you can qualify to fill it at a good salary. Be sure to mention the position you prefer.

Architect	Estimating Clerk	Foreman Machinist
Architectural Draftsman	Bridge Engineer	Sheet-Metal Pat. Drafts.
Contractor and Builder	Civil Engineer	Mining Engineer
Building Inspector	Surveyor	Textile Expert
Structural Engineer	Mechanical Engineer	Bookkeeper
Structural Draftsman	Mechanical Draftsman	Stenographer
Plumbing & Heating Cont.	Stationary Engineer	Ad Writer
Supt. of Plumbing	Electrical Engineer	Window Trimmer
Foreman Steam Fitter	Electrician	Illustrator
Plumbing Inspector	Electric-Lighting Supt.	Civil Service Exams.
Heating & Vent. Engineer	Electric-Railway Supt.	Chemist

CHICAGO MILLWORK SUPPLY CO.

FROM MANUFACTURER DIRECT

239-245 W. 22nd St.

CHICAGO, U. S. A.

FROM MANUFACTURER DIRECT

C. M. S. Co.'s

Economy Flintcoated Rubber Roofing

It is a flexible asphalt fabric. Put up in rolls 36 in. wide—two squares in a roll—and made in three weights.

Each square includes 108 sq. ft. of roofing, nails and liquid roofing cement for making the seams and flashings.

The nails and cement are all securely packed inside of each roll, making the most convenient roofing package now on the market.



It Can Be Tested

By the following methods:

Put a hot coal on it;
Soak it in acid;
Soak it in lye;
Soak it in water;
Soak it with a hammer;
Lay it on the stove;
It won't run.

Bend it, twist it, satisfy yourself in any reasonable way that it is good, durable roofing.

It is absolutely the best Roofing on the market

Three Thicknesses Three Prices

One Quality

Write for Large Samples and Net Prices

CHICAGO MILLWORK SUPPLY Co.

FROM MANUFACTURER DIRECT

239-245 W. 22nd St.

CHICAGO, U. S. A.

FROM MANUFACTURER DIRECT

C. M. S. Co.'s

Refrigerators

"Cold Storage" Sanitary White Enamel Linings



C 2903

Our **White Enamel** is a pure mineral prepared in our own laboratory, applied upon galvanized steel, and each coat baked at varying high degrees of heat.

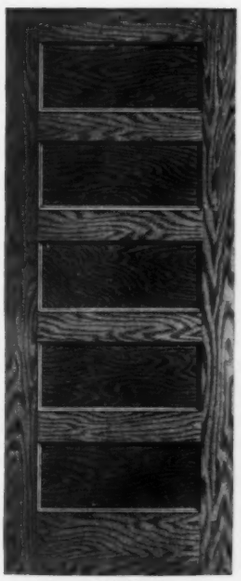
It presents a glossed surface, similar to porcelain, will not peel or flake, is **odorless and absolutely sanitary.** We have manufactured it for three years, and it has been accorded general praise and highest commendation.

The above is one of our four leaders which we carry in stock, ready for immediate shipment.

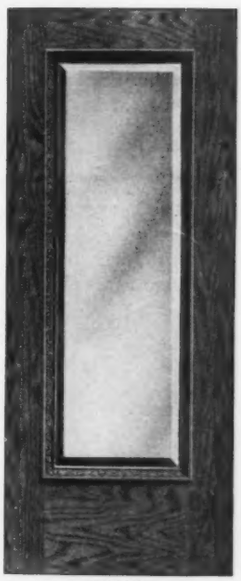
Our Woodenware Supplement No. 17 describes them fully and gives net prices. Sent **FREE.**

C. M. S. Co.'s

Stock Oak Veneered Doors



C 940



C 922

We guarantee workmanship and material to be of the highest grade.

Write for Complete Catalog No. 15

Containing 312 Pages, 2,000 Designs and giving exact prices on

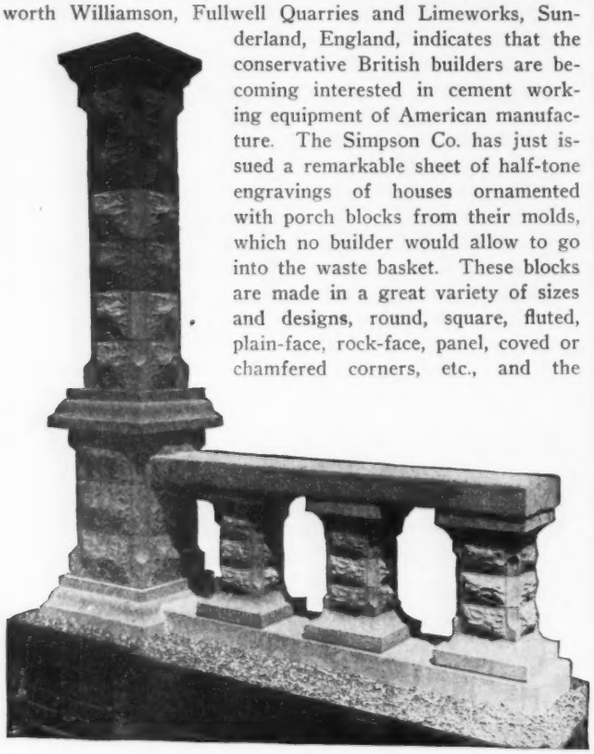
Doors, Windows, Mouldings, Blinds, Frames, Porch Work, Art Glass, Mantels, Stair Work, Grilles, Wood Carpet, etc.

This Catalog Free. Send 10c in coin or postage to cover actual cost of mailing.

advantage in localities with inadequate fire protection or for buildings situated near railroad tracks. Another point in favor of slate is that moss and decaying vegetable matter cannot grow or adhere to it. From this it is evident that the rainwater off of a slate roof is naturally purer than that colected from shingle, metal or composition roofs. Slate is not affected by the contraction and expansion usually resulting from alternating heat and cold, and a good slate roof possesses unlimited durability and should last as long as the building upon which it is placed. For the past 50 years large quantities of roofing slate have been used in the central states, and the increasing consumption and almost universal acceptance of slate roofs indicate that long actual service has converted the roof owners to the merits of this form of roofing. Owing to the variance in the freight rates to various points, the difference in the cost of labor, etc., it is not possible to quote figures covering the cost of slate as compared with other roofing. However, considering length of service and yearly cost of maintenance (the only reliable way of measuring the value of any article), it would seem that roofing slate, in the long run, is the most economical roofing material yet produced. Its initial cost does not greatly exceed that of other roofing, and when it is borne in mind that a slate roof, properly put on, will outwear the building, and that it does not require painting, recoating or repairs such as are necessary in too frequent intervals on roofs of any other kind, it will be seen that it is a material well worthy of investigation by those in need of roofing. Add to its freedom from maintenance expense its other good features herein mentioned and it seems as though slate is the ideal roof covering.

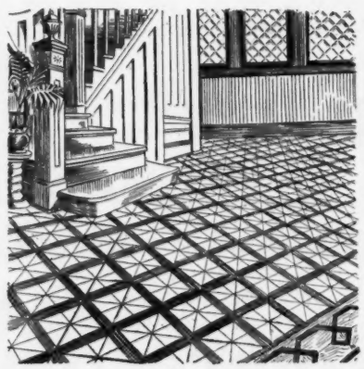
Artistic Concrete Porches

Porch block molds made by the Simpson Cement Mold Co., of Columbus, O., are attracting great attention, and the company reports a rush of business from all parts of the world. A large shipment just made to the executors of the late Sir Hedworth Williamson, Fullwell Quarries and Limeworks, Sunderland, England, indicates that the conservative British builders are becoming interested in cement working equipment of American manufacture. The Simpson Co. has just issued a remarkable sheet of half-tone engravings of houses ornamented with porch blocks from their molds, which no builder would allow to go into the waste basket. These blocks are made in a great variety of sizes and designs, round, square, fluted, plain-face, rock-face, panel, coved or chamfered corners, etc., and the



molds are all handled to produce beautiful effects with great

Parquetry Flooring



Much in Demand

More Attractive

Most Sanitary

Our PATENTED PARQUET Flooring

is considesed by architects to be the best on the market. Warping and twisting, by our method, are absolutely avoided and it

WILL LAST A LIFETIME

We have been in this line of work for the last thirty years and have laid, in all probability, more fine floors than any other firm in the entire West.

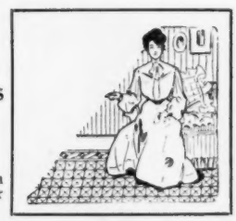
Our handsomely illustrated Catalog will be sent upon application, which shows method of laying, the arrangements around the fireplace and in relation to the stairs.

We carry also a complete line of

ARCHITECTURAL FINISH

WAX BRUSHES

FELT BROOMS



MOORE'S REVIVER

is used to restore the color in those parts of a varnished floor where finish is worn off.

Moore's Floor Wax



is Unequaled for Floors Furniture Woodwork

1 lb.....	$0.50
2 lbs....	1.00
4 lbs....	2.00
8 lbs....	4.00

E. B. MOORE & CO.

76 Wabash Ave. CHICAGO



IS A VERY IMPORTANT ONE

Are you building a house, or store, or other building?

Have you thought about the means of heating it?

Ever hear of

The Front Rank Steel Furnace

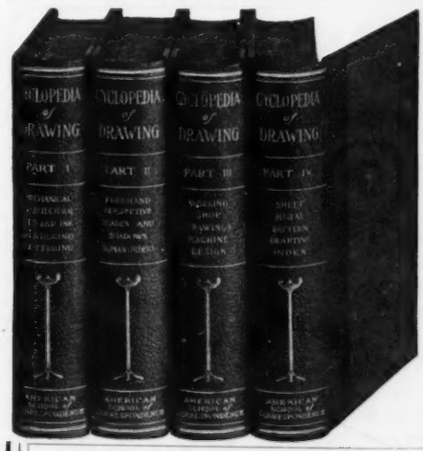
—a fuel saver and a perfect heat distributor?

Let us send you our latest catalogue—contains photos of many residences heated by **Front Rank Steel Furnace.** In addition it contains practical suggestions and other furnace information you'll appreciate.

Write for it to-day—**NOW**—it's free. Favor us by mentioning the name of your local dealer.

Address **HAYNES-LANGENBERG MFG. CO.**

2307 Lucas Avenue **ST. LOUIS, MISSOURI**



GREAT HALF-PRICE SALE

An Unusual Opportunity for the Contractor and Builder

This massive four volume **Cyclopedia of Drawing** is to be offered for the next thirty days at just one-half the regular price. Every contractor, builder and carpenter must understand drawing—every branch of it taken up in these books—nothing omitted. Without a single exception, this great work contains more practical drawing information than any work sold at even double this price. The books are not old and damaged, but entirely new and perfect.

Cyclopedia of Drawing

4 Large Volumes—2000 Pages—Nearly 1 Foot High

Bound in red morocco. Type is large, new, easy to read. Fully indexed.

Not only is the Cyclopedia a complete, authoritative reference library for the architect, superintendent, foreman of construction and master carpenters who wish to "brush up" on their weak points, but it is also a practical home study library for the apprentice. It is entirely free from purely technical descriptive matter so easily misunderstood. Every chapter is complete in itself—every subject is thoroughly analyzed, dissected and discussed by competent authority from every point of view. Each volume contains a series of test questions to emphasize the vital points and bring out more clearly the relative importance of the different subjects discussed.

PARTIAL LIST of CONTENTS

Mechanical Drawing; Geometrical Drawing; Intersection and Development; Architectural Lettering; Rendering in Pen and Ink; Architectural Drawing; Rendering in Wash; Free Hand Drawing; Perspective Drawing; Plane of Projection; Lines of Measure; Shades and Shadows; Use of Auxiliary Planes; The Roman Orders; Superposition of the Orders; Working Drawings; Machine Drawings; Cams; Belting; Gearing; Shop Drawings; Drafting Room Organization; Machine Design; Friction and Lubrication; Pulleys; Shafts; Sheet Metal Work; Tables; Skylight Work; Roofing Cornice Work.

FREE FOR EXAMINATION

No Money Down

Special Price $12 **Regular Price $24**

The material in the books was compiled from representative instruction papers of the American School of Correspondence. We wish to acquaint the public with the high-grade character of the instruction of our school, and for this reason we are willing to make such a tremendously low offer. Thousands of sets have been sold—every set absolutely on approval—and yet we have not had even one per cent of the books returned. Merely ask us to send you a set of the books—send no money whatever. Look them over carefully—take advantage of any outside aid, if you know of anyone who is better able to judge their merits. Then if you are satisfied that the books are exactly as represented, and will meet your needs, send us $2.00 within five days and $2.00 a month thereafter until you have paid $12.00. If you do not care to keep the books, notify us to send for them at our expense. Absolutely no money involved unless you purchase—you cannot lose a penny on the transaction.

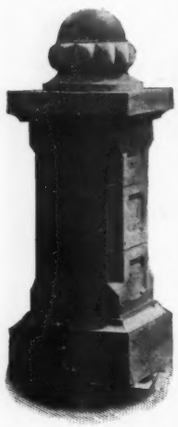
A 200 PAGE HANDBOOK SENT FREE ON REQUEST IF YOU MENTION THIS PAPER

AMERICAN SCHOOL OF CORRESPONDENCE

Am. Carp. and Build., April, '07.

CHICAGO

ease. They are substantial, durable and simple in operation, requiring no equipment other than the molds and the necessary flat board pallets, made by the block-maker at trifling cost. The company makes many molds to meet special requirements. The AMERICAN CARPENTER AND BUILDER representative, during a recent visit at the Simpson Co.'s plant, was shown a large balutser mold which was under construction for use at the Evanston place of Mr. D. H. Burnham, the great Chicago architect. Jas. Wigginton, the contractor, will make and place 500 of these balusters on Mr. Burnham's retaining walls. The design is such that the pieces cannot be cured on end, and they are to rest in special pallets which accompany the mold. The Simpson Cement Mold Co. invites inquiries from builders and block makers. The address is 496 North High street, Columbus, O.





Perfect Metal Ceilings

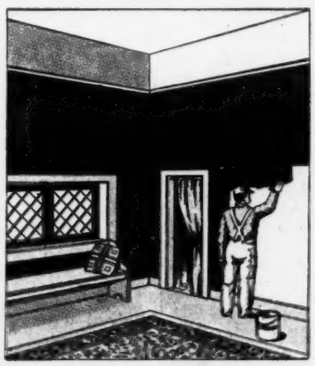
The Perfect Art Metal Ceilings manufactured by the James H. Watson Company, of Bradley, Ill., have a very suitable name from the fact that they have the most artistic appearance of any ceilings on the market today. On page 135 we illustrate two of their new designs and you can readily see the sharpness of stamping and gracefulness of their work. The patterns they manufacture are absolutely new and it will be appreciated by many dealers, architects and contractors as well as the public that they have made the move to put Perfect Art Metal Ceilings on the market. One of the principal features in the construction of their goods, is the fact that they have a perfect fitting bead; this not only adds to the attractiveness of their patterns but increases the speed in erecting the ceilings.

At the present time they manufacture the three following classifications: Louis XIV., Colonial, Italian Renaissance.

Their machinery for turning out this work is the most modern to be had. They are compiling a book treating on Perfect Art Metal Ceilings which will be ready for distribution in a short time.

Pioneer Door Hanger Mfg. Co.

The Wilcox Manufacturing Company of Galesburg, Ill., has been established for the past twenty-six years. They manufacture not only a large variety of house door and barn door hangers, overhead carrying systems, etc., but in addition to these they manufacture over 300 specialties, mostly business getters. Their goods are found in every jobbing house and large retail hardware store, not only in this country but they have agencies in London, Paris, Hamburg and Berlin. They also carry stocks of goods in their warehouses in New York and Philadelphia, having fifteen salesmen on the road. Their catalogue, however, describes their product very fully. In this, it is their aim to describe their entire line in detail. This company was the first firm to place on the market an adjustable door hanger and since their inauguration in 1880, they have been constantly increasing their business until at present they have assumed very large proportions. Their



WHY NOT BEAUTIFY YOUR HOME WITH

Ashbaugh's

Sanitary Wall Finish

A high grade flat finish, Lead and Oil Paint. Harder than Enamel or Varnish and will wash better.

SEE PAGE 107

For further information and prices write

THE COLUMBUS WHITE LEAD COMPANY

142-144 S. Front St. COLUMBUS, O.



"Cincinnati" Screen Doors conform in design to house door.

Good Screens Pay

With ordinary care "Cincinnati" Fly Screens will last as long as your house itself. They always work smoothly, never stick, for the frames are made of thoroughly seasoned wood which will not warp.

Our netting (enameled steel or bronze) is fine enough to **exclude mosquitoes** and insects as well as flies. Its dull finish prevents any "glare." The method of holding this netting in place, construction of frames, springs, etc., have all been developed by years of experience.

No two doors or windows are exactly alike. Cincinnati Fly Screens are, therefore, built to order only and shipped direct from factory to you.

Our illustrated booklet "How to Screen Your Home" will save you money and add to your comfort. Write for it.

The Cincinnati Fly Screen Co.

1050 Evans Street

CINCINNATI, - - - - OHIO



SHORT ORDER MILL

3 Floors 200 x 100 *Employs 200 Men*

Makes odd and special work quickly. Most of the stuff carried in stock half or three-fourths made up, ready to finish in a hurry.

The story of the

Cleveland Window Glass Co

The most complete Builders Supply House in America

Frames Doors Sash Finish Porch-Stuff Stairwork
Plate Window Art *and* Prism Glass Mirrors
Paints Varnishes

TO CONTRACTORS:

We want you to know what we can do for you and what we are doing for a thousand others.

We are after your trade, and the best way to get it is to work for your interests in every way and to help you make money by giving you the lowest wholesale prices, high quality, liberal terms, and quick service.

Our facilities for doing this are extraordinary, being large wholesalers of doors, glass and paint, and also making our own hardwood and special millwork, mirrors, art and prism glass.

There are 400 of us, making and selling. We started small thirty-seven years ago; growing ever since. Today we know of no one, anywhere, who has equal facilities or offers our advantages.

Take our Short Order Mill, a new invention of ours. WE CAN MAKE ODD SIZES OF VENEERED HARDWOOD DOORS OF THE BEST QUALITY IN ONE DAY AFTER RECEIVING THE ORDER. Have done it repeatedly. We don't expect to do this as a practice, preferring two or three weeks to handle usual odd hardwood orders, but WE CAN HANDLE RUSH ORDERS OF THIS KIND QUICKER THAN ANY MILL IN AMERICA.

Same with Sash. WE CAN MAKE AN ODD SASH OF NEARLY ANY SIZE IN AN HOUR.

Take frames for wood or brick buildings. WE FREQUENTLY DELIVER LARGE ORDERS OF BOX FRAMES WITHIN 24 HOURS AFTER WE GET THE ORDER.

So with finish, porch and stairwork. We have four acres of floor space filled with stock stuff and unique facilities for making special woodwork, art glass, mirrors and beveling.

AS TO QUALITY. Ohio grades are very high and we improve on them when possible. Our hardwood doors are the best we can make. Our windows are made of good glass backputtied, washed and paper packed to save all damage in transit.

PRICES. We give the best values in America.

TERMS. Our terms are liberal, either cash or credit.

SEND US YOUR LISTS FOR NET DELIVERED PRICES TO YOUR DEPOT. We will make low prices on your stock stuff or your entire house bills from frames to finish. Our catalogs of doors, sash and millwork, art glass, mirrors, plate and window glass, and paint stuff sent free.

CLEVELAND WINDOW GLASS CO
doors glass paints
Cleveland O

line is very complete and if you will send them your name, mentioning the AMERICAN CARPENTER AND BUILDER, they will be pleased to forward you their catalogue.

Stained Glass Memorial Windows

It is not always the expensive window that is the most beautiful. The real merit of art glass consists in its color-harmony.



The best mechanic can spoil a fine design by executing it in an incongruity of color. Flanagan & Biedenweg, Chicago, have had the experience necessary in this line to produce a well-finished work of art. If you are interested in anything in this line, you would profit by sending for their descriptive literature.

School of Bricklaying

Since bricklaying was first thought of, men whose good fortune it has been to be bricklayers have endeavored to keep the trade in as few hands as possible, and the restricted employment of apprentices has been carried to such an extent that it has been almost impossible for many to learn the trade. That the demand for bricklayers at present is so enormous is therefore easily understood. The establishment of the Chicago School of Practical Bricklaying, 2115-2117 West Adams Street, Chicago, some time since, by Mr. H. T. Kies, a practical bricklayer of many years' experience, has been a success from the start. His plan has been so practical and concise that every student has been able after completing the course to secure a good job as bricklayer at high wages, and hold it. The course covers every phase of the trade's practice. It goes into the very vitals of every kind of requirement, and under this system one can acquire as much—and even more—knowledge in about as many



TOLEDO MANTELS

Delivered in your city at factory prices. *Write for cuts and prices.* Large line Exclusive Designs. Cabinet work and finish of highest class. We also furnish Tile for floors at wholesale prices.

Toledo Mantel and Tile Co., Toledo, Ohio.



Rosenberg's Automatic Ventilating Sash Lock

Side Line for Carpenters

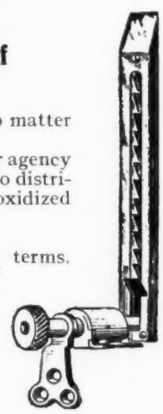
Big Money In It

(Absolutely Burglar Proof.)

Easily and quickly applied without cutting sashes.

Impossible to pry off or to pick from outside.

Prevents Rattling of Windows



as it draws the sashes tightly together no matter how far separated.

Will send to any carpenter who applies for agency a mounted Model Sash, printed literature to distribute among his customers and 4 locks in oxidized copper finish on receipt of $2.00.

Write for our booklet—it is free.

It gives full description and wholesale terms.

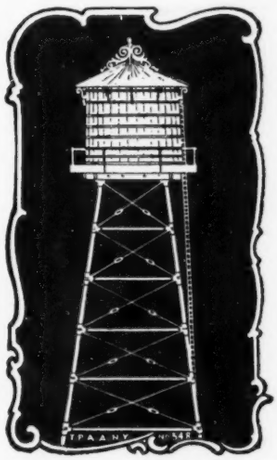
Safety Window Lock & Ventilator Co.

17-21 Quincy Street, Chicago

ALWAYS SAFE AND RELIABLE. ASK YOUR FRIENDS.

YOUR WATER SUPPLY SERVICE WILL BE RATED AA-I BY INSTALLING A

CALDWELL TANK and TOWER



which stores a supply of water up to the full capacity of tank, not for a little while, but all the while. No continual leaking to reduce capacity of the tank and to necessitate continual repairs.

The Red Gulf Cypress used in our tanks is the best wood in the world for tank purposes, being as lasting as steel. The engineering principle governing the construction of our steel towers is the same as used in bridge building, and possesses the same degree of strength and stability. It is this superiority of materials and methods that makes the Caldwell Outfit rate so high all over the country. Don't fail to investigate it before buying. Illustrated catalogue and book of Photo Views for the asking.

W. E. CALDWELL CO.,

Tanks STEEL-WOOD GALVANIZED **Towers**

WINDMILLS--GAS ENGINES--PUMPS

LOUISVILLE :: :: KENTUCKY

Rider Agents Wanted



in each town to ride and exhibit sample 1907 model. *Write for Special Offer.*

Finest Guaranteed **1907 Models $10 to $27**

with Coaster-Brakes and Puncture Proof tires.

1905 & 1906 Models **$7 to $12**

all of best makes

500 Second-Hand Wheels

All Makes and Models, good as new **$3 to $8**

Great **Factory Clearing Sale.**

We **Ship on Approval** *without a cent deposit,* **pay the freight** and allow **TEN DAYS' FREE TRIAL.**

Tires, coaster-brakes, sundries, etc. half usual prices. **Do not buy** till you get our catalogs. *Write at once.*

MEAD CYCLE CO., Dept. M122 Chicago

SLATE WE HAVE WHAT YOU WANT

In Roofing Slate, Slate Blackboards

Structural and Plumbers' Slate

SATISFACTION GUARANTEED IN QUALITY AND PRICE

ASK FOR DELIVERED PRICES

J. K. HOWER, Station C., **Slatington, Pa.**

H. J. KICHLINE, Sales Agent

WHO WANTS SLATE?

Roofing Slate for Houses, Barns, &c. Always clean, beautiful and fireproof.

Blackboards for Schools, Colleges, &c. Needs no commendation; universally used all over this and other countries.

Structural Slate. Electrical Stock, Sinks, Troughs, Washtubs, &c. Superior to all stone for such purposes.

Slater's Supplies. Handmade Slating Tools, Felt, Cement, Nails, Snowguards, Punching Machines, &c.

Write for prices and I will tell you all about Slate.

DAVID McKENNA, Slatington, Pa., U. S. A.

K. C. WIRE & IRON WORKS.

Home Telephone 611 Main Bell Telephone 87 Grand

Tree Boxes
Stall Guards
Fencing
Poultry Netting
Desk Rails
Riddles
Hay Racks

STEEL BEAMS and CHANNELS

Architectural Castings Architectural Wrought Iron

Feed Boxes
Coal Screens
Window Guards
Jail Cells
Columns
Wire Cloth
Joist Hangers
Lintels, etc.

Foundry and Machine Shop, Rosedale, Kansas

WIRE WORK OF ALL DESCRIPTIONS Desk A, Kansas City



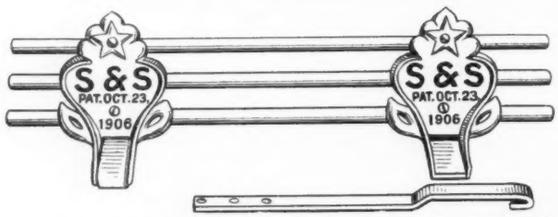
months as it formerly took years under the apprentice system. When a student enters the school he begins immediately to learn bricklaying. He does not have to run errands, carry tools for others, etc. He does nothing but study bricklaying every hour of the day. Price of tuition includes both common and pressed brick work in all its branches. A course once paid for is good until student graduates.

Write them, mentioning the AMERICAN CARPENTER AND BUILDER, for further information.

Newest and Best Snow Guard

Henry N. Sieger & Son, Slatington, Pa., have recently been granted a patent on snow guards, and are manufacturing and placing them on the market under the name of the "S & S" Snow Guards. These guards are made in two styles, known as Model "A" and Model "B," differing only in the size and shape of the fender or guard plate. Model "A" is the most ornamental in design and makes an artistic finish on small projecting hip slate roofs. It is, however, intended to be used principally on roofs of large buildings, the plates being provided with notches and extra plates and bolts for the securing and fastening bars of iron or iron piping, making a continuous connected railing extending over the entire length of the roof, the brackets being placed at intervals of from 24 to 36 inches apart, in accordance with the size of slate used. This arrangement, when securely fastened to the roof, will resist any weight of snow and ice brought to bear upon it, without the least possibility of breaking or giving away under the strain. The perforation

THE "S & S" SNOW GUARD.



afforded by this means enables a free flow of water under and between the railing, thus preventing the backing up of water under the slates, breaking the slates by the ice which is generally formed where the old style of snow boards are used.

Model "B" is also of a neat design, constructed on the same principle as Model "A," but has no railing attachment, and is intended for ordinary roofs of residences and outbuildings, and when placed at reasonably close distances apart they form a perfect stop to sliding snow and ice.

These guards are without question the most simple in

Birch Wood

Dyed Through and Through

Numerous beautiful fast colors. Large variety of tints for furniture of all kinds and small articles (busts, turnery, etc.) Epoch making substitute for brown choice woods. Samples and estimates on application. First-class agents with good references and trade connections wanted.

Stockholms Träfärgnings Aktiebolag
Stockholm, Sweden

PUMPS, DOOR-HANGERS, STORE LADDERS

The Pump That Pumps — SPRAY PUMPS — Double-acting, Lift, Tank and Spray PUMPS

MYERS — Glass — Valve

Store Ladders, Etc. HAY TOOLS of all kinds. Write for Circulars and Prices.

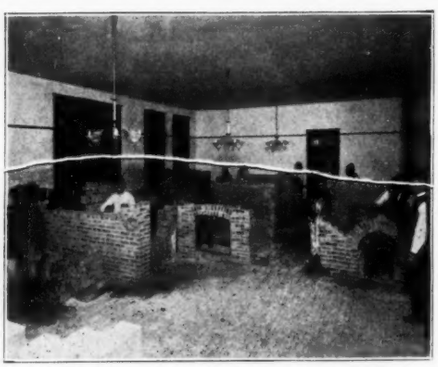
Noiseless Cushion Tire

Myers Stayon Flexible Door Hangers

with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—"Stayon." Write for descriptive circular and prices. Exclusive agency given to right party who will buy in quantity.

F. E. MYERS & BRO.
Ashland, - Ohio

Bricklaying Taught by Practical Bricklayer



In 2 to 3 Months

As we teach brick laying exclusively we turn out the most expert mechanics.

Positions secured for our graduates.

Individual instruction.

Start right with the tools and learn how.

Send for circular.

Chicago School of Practical Bricklaying
2115 W. Adams Street



EARN YEARLY $3,000 TO $10,000 IN THE REAL ESTATE BUSINESS

FREE BOOK

WE will teach you by mail the Real Estate, General Brokerage and Insurance Business and appoint you

SPECIAL REPRESENTATIVE

of the oldest and largest co-operative real estate and brokerage company in America. Representatives are making $3,000 to $10,000 a year without any investment of capital. Excellent opportunities open to you. By our system you can make money in a few weeks without interfering with your present occupation. Our co-operative department will give you more choice, salable property to handle than any other institution in the world.

A thorough Commercial Law Course Free to each representative. Write for 62-page Book Free.

THE CROSS COMPANY, - - 569 Reaper Block, CHICAGO, ILL.
The Original Real Estate School—no connection with any other concern of similar name.

Start the Season Right



Plate No. 3005

By Using Our

Perfect Art
METAL CEILINGS

of Latest Designs in

Louis XIV
Colonial
Italian Renaissance

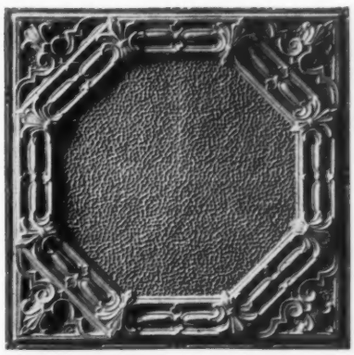
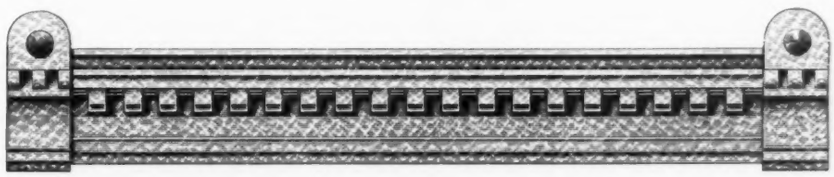


Plate No. 3003

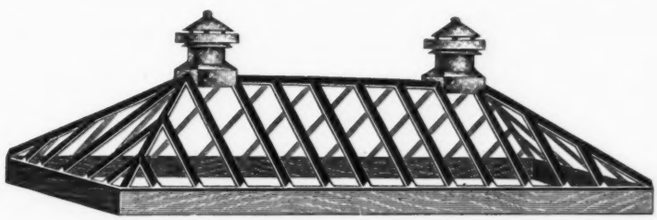
We know how to obtain the very best results in Stamped Metal Work, therefore our Plates, Cornices, Mouldings, etc., are embossed to the greatest depth, and when erected, have the appearance of Staff Work. The joints of our ceiling are perfect fitting, which makes it easier to apply, and gives greater rapidity in erection.

Send us plans, with measurements of your requirements, and we will prepare and forward drawing **free of cost,** suggesting such patterns as will be most suitable for your work, with our lowest net lump price for the material, delivered to your station.

We Manufacture a Full and Complete Line of



Galvanized Cornices, Eaves Trough, Crestings, Vanes, Conductor Pipe, Steel Tanks, Finials, Wire Hangers



Skylights, Etc.

Metal Ceilings
Painted With Our

Perfect Art Flat Metal Paint

Have a more artistic appearance than those painted with a gloss. It produces the beautiful velvety effect as shown on our color card, and is absolutely guaranteed not to peel or blister.

COLOR CARD MAILED ON REQUEST

The James H. Watson Company, Inc.

BRADLEY, ILLINOIS

Western Branch, Avery Building, Kansas City, Missouri

construction, durable for wearing qualities, and ornamental in design of any heretofore used, and being the only guards having a double diverging brace connecting the upright plate with an outwardly extending bed plate, which engages the hook of the fastening strap, there is no possibility of becoming disengaged, twisted or severed, there being no rivets or pintles to rust, consequently nothing to disturb them or break and drop off the roof after a few years of exposure.

Messrs. Sieger & Son are also extensively engaged for the past few years in the wholesaling and shipping of the best grades of Pennsylvania unfading black roofing slate, blackboards, structural slate and roofers' supplies, and will be pleased to name special delivered prices for their products to any railroad point in the United States and Canada.

Write for their large calendar showing the "S. & S" Snow Guards applied to the roof, also booklet and prices.

Concrete Block Architect

We are pleased to state in this issue that Wm. M. Kingsley, a well-known Cleveland architect, has entered the field and is issuing a book containing designs for concrete block buildings. Mr. Kingsley has erected many beautiful buildings, using this material, as is shown by his book. Below is the design of an office building erected by the Sandusky Portland



Cement Co., at Dixon, Ill., from Mr. Kingsley's plans. The book contains perspective sketches, photographic reproductions, floor plans, descriptions, and estimated costs, as is explained in his advertisement on page 148 of current issue. Prospective builders who are contemplating using concrete blocks can get good ideas from this book. Mr. Kingsley's address is 1012 Rockefeller building, Cleveland, Ohio.



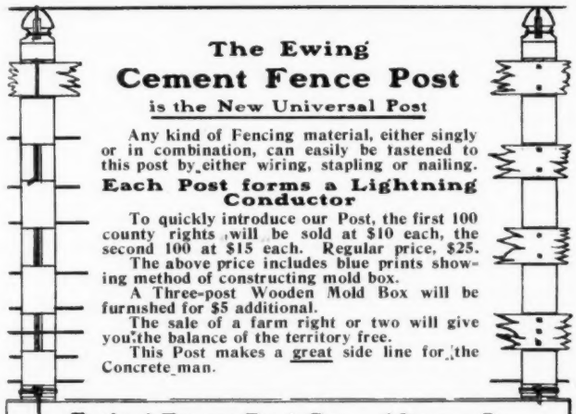
OUR PLAN!

Will enable you to engage in a big industry which requires VERY LITTLE CAPITAL and WILL YIELD LARGE PROFITS. If you are a contractor, concrete manufacturer, or wish to engage in a profitable business, WE WANT YOU TO INVESTIGATE OUR

U. S. Cement Shingle Machine

The ONLY machine on the market that makes a cement shingle which can be laid over felt or tarred paper and which fastens to the sheathing with wire nails. Absolutely rain, snow and wind proof. Impervious to moisture — warm in winter, cool in summer. A postal card will bring full particulars.

The U. S. Cement Machine Co., Deshler, Ohio.
Department 4. Ask about our face down Block Machine.



The Ewing Cement Fence Post
is the New Universal Post

Any kind of Fencing material, either singly or in combination, can easily be fastened to this post by either wiring, stapling or nailing.

Each Post forms a Lightning Conductor

To quickly introduce our Post, the first 100 county rights will be sold at $10 each, the second 100 at $15 each. Regular price, $25.

The above price includes blue prints showing method of constructing mold box.

A Three-post Wooden Mold Box will be furnished for $5 additional.

The sale of a farm right or two will give you the balance of the territory free.

This Post makes a great side line for the Concrete man.

Ewing Fence Post Co., Akron, O.

WALL TIES

WALL TIES

Jumbo, Buckeye, Columbus, Standard and Ohio Ties

Capital Ties and Nail Grip

I make as many different ties as any other three manufacturers combined. Every kind is made on a special machine and manufactured at the lowest possible cost. The selling price is as low as can be made. Samples sent anywhere on request. Dealers wanted everywhere.

O. D. LEVERING
75 North Fourth St. Columbus, Ohio

WALL TIES

PREVENTS DRAFTS, DUST AND WINDOW RATTLING.



IVES' PATENT Window Stop Adjuster.

HEAVY BED

PATENTED.

The only Stop Adjuster made from one piece of metal with solid ribs and heavy bed that will not cup, turn or bend in tightening the screw. Manufactured only by **The H. B. IVES CO., New Haven, Conn., U. S. A.** (Fifty-page Catalogue Mailed Free.)

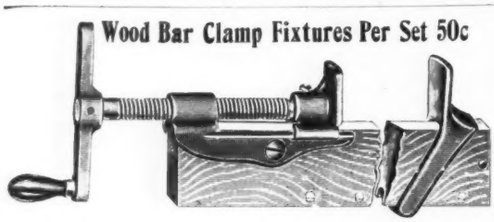
For Sale or Exchange

One of the BEST CORNERS on **DREXEL BOUL.** For an Apartment Building or Family Hotel, **80x120 ft.**

Transportation facilities are unexcelled. Present improvements pay expenses. Address

H. L. KOCHERSPERGER,
334 Dearborn St. (Owner) CHICAGO, ILL.

Wood Bar Clamp Fixtures Per Set 50c

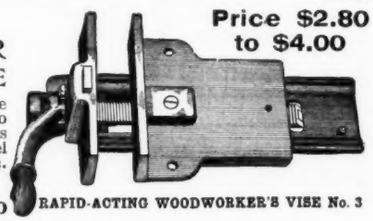


OVER **12,000** OF OUR STEEL RACK VISES IN USE

25 doz. Clamp Fixtures bought by one mill last year. We ship on approval to rated firms, and guarantee our goods unconditionally. Write for list of Steel Bar Clamps, Vises, Bench Stops, etc.

E. H. SHELDON & CO.
277 Madison St., - - CHICAGO

Price $2.80 to $4.00



RAPID-ACTING WOODWORKER'S VISE No. 3

Our Catalogue contains over 500 illustrations of Ornamental Glass and Glass Signs



Local Agents Wanted

Can handle this line to advantage.

Correspondence solicited

Established 1876

Western Sand Blast Mfg. Co.

Ornamental Glass: Ground, Chipped, Enameled, Figured, Embossed, Silvered, Sand Blast, Leaded

Ornamental Glass AND GLASS SIGNS OF ALL KINDS

Glass Signs: Business, Advertising, Display, Electric

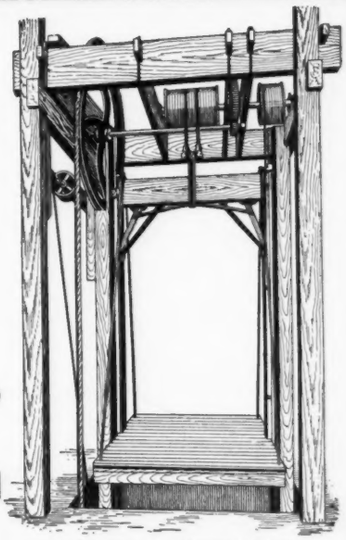
21st Street and Marshall Boulevard
CHICAGO, ILLINOIS



Elevator Repair Bills

Reduced 25% By Using

THE EATON & PRINCE



Center Lift Store Hoist

We Pay the Freight—You Install Elevator Yourself

We will ship this Elevator direct to you, freight paid and you can install it yourself without expense except the help of the average mechanic. This is an exceptional offer. Everyone knows that **EATON & PRINCE** means dependable Elevators. No other Elevator is quite as good because none is made with such infinite care. Send for Catalogue No. 99.

We are also extensive makers of Passenger and Freight Elevators, for direct and alternating current. Send for catalogue.

EATON & PRINCE COMPANY

70-76 MICHIGAN STREET, CHICAGO.

35 YEARS SERVICE

MASONS' TOOL BAGS

Carpenters' Tool Bags

Carpenters' Aprons

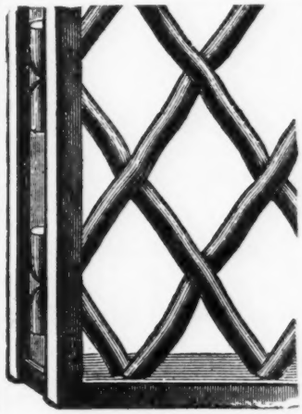
Excelsior Brand



Carpenters Bit Bags

SEND FOR CATALOG

EXCELSIOR IMPLEMENT CO. TROY, NEW YORK.



CO-OPERATIVE WIRE & IRON WORKS

Architectural and Ornamental Wire and Iron.

Bank and Office Railings

Window Guards

Fences

Wire Lockers

Elevator Enclosures

51st and Halsted Sts. CHICAGO

Send for Catalog 34

DID YOU SEND US YOUR NAME?

Many Readers of this Paper Have Subscribed for the

Best, Largest and Most Practical Cement Paper, the

CEMENT WORLD

Send us your subscription at once and

SAVE 50 PER CENT PRICE ADVANCES AFTER THE APRIL ISSUE

CARPENTERS AND BUILDERS

Should know all about Cement and its possibilities. They

Will Need it in Their Business

Get posted about this rapidly growing Industry, the universal topic, which is revolutionizing the Structural World and displacing Wood, Stone and Steel. Subscribe now for the Trade Paper that is the greatest in its field. Special Introductory Price until the first number is issued is

ONLY 50 CENTS A YEAR

including a

Certificate of Charter Membership

Engraved in three colors, showing the holder is one of the original First Number Subscribers. Subscriptions beginning with May will cost $1.00 a year.

THE FIELD IS COMPLETELY COVERED

Cement Construction
Engineering and Supervising
Machinery and Tools
Elevations, Plans and Details
News of the Industry
Tiling, Tamping, Tunnels

Waterproofing and Coloring
Original Articles and Ideas
Reinforced Concrete
Latest Inventions
Devices for Labor Saving

FIRST NUMBER OUT APRIL 15

Begin with Vol. I, No. 1. **Send us your name today.**

Enclose 50 cents in P. O. Order, Stamps or Silver, and address

CEMENT WORLD

241 FIFTH AVENUE :: :: :: CHICAGO

MANY MEN HAVE MANY MINDS

But All Will Agree That

Cement is the Coming Building Material

And that the

CEMENT WORLD

Is the BEST, LARGEST and

Most Practical Cement Paper

BECAUSE It Goes to the Heart of the Subject
BECAUSE It Tells Why Cement Has Become so Popular
BECAUSE It Shows the Many New Uses to Which it Can be Put
BECAUSE Its Writers are the Best Authorities
BECAUSE Its Illustrations are the Largest and Clearest
BECAUSE Its Range Covers the Entire Industry

It will contain Elevations, Plans and Details of Residences, School Houses, Churches, Stores, Public Buildings, Factories, Farm Buildings

THE APRIL NUMBER OUT APRIL 15 WILL BE A DANDY

Some of the Special Illustrated Articles:

THIRTY MILES OF CEMENT TUNNELS — George W. Jackson
Mr. Jackson was the Chief Engineer of the Chicago Subway, and in this article he tells of the difficulties encountered and overcome in one of the greatest engineering achievements in the world's history.

CONCRETE *versus* STONE AND WOOD — Fred W. Hagloch
In this specially prepared article Mr. Hagloch has reproduced elevations, plans and details of the same residence in both wood and stone and concrete blocks, figured the cost of each and tells why concrete was decided to be the best building material.

CONCRETE ARTIFICIAL ICE PLANT — Geo. J. Seymour
Proving the efficiency of an entirely new method of insulation.

CONCRETE IN HARBOR WORKS — Waldon Fawcett
A Finely Illustrated Description of the Marvelous Increase in the Utility of Cement in the Construction of Docks, Piers, Breakwaters and Sea Walls by the United States Government.

CAUSE OF DAMAGE TO CONCRETE STRUCTURES — Emery H. Chase
How the Use of Boxes Not Water Tight Robs Material of Moisture and Works Injury in Case of Freezing.

FOUNDATIONS AND COFFERDAMS — T. P. Ellis
Engineering Difficulties in Their Construction and Practical Hints to the Builder on Best Methods of Procedure in the Work.

BUILDING RAILROAD ACROSS FLORIDA KEYS — C. D. Warner
How the Florida East Coast Line is Constructing Viaducts by the Use of Concrete Laid on the Ocean Floor.

THE ABOVE SUBJECTS ARE ONLY A PARTIAL LIST

Many Other Special Features will be found in the

Begin with the First Number **Cement World** **Save 50 Per Cent**

PRICE WILL GO TO $1.00 AFTER THE APRIL ISSUE

Cut or tear out this Coupon, Enclose 50 Cents and MAIL TO US TODAY

Cement World,
241 Fifth Ave., Chicago.

Gentlemen:

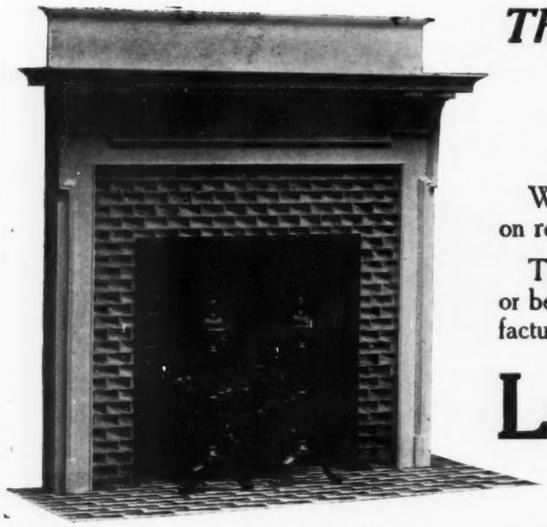
Enclosed find 50 cents for one year's subscription to the CEMENT WORLD, beginning with the April, 1907, number. Also send me a CERTIFICATE OF CHARTER MEMBERSHIP without extra cost to me.

NAME_____

TOWN_____ STATE_____

STREET AND NO._____ R. F. D._____

Note.—This Coupon expires after the April Issue. Price goes to $1.00 a year beginning with May Number.



No. 1002—Made of well seasoned white wood, finished in 3 coats of white paint, ready for enameling. Height, 58 inches; Width 60 inches; Tile Opening, 42 x 39 inches; Tile Projection, 4 inches.

This Beautiful Colonial Mantel $12.00

We will ship this artistic, well-built mantel to any address on receipt of price. (Read full description under illustration.)

This design is especially well adapted for the living-room or bed room, and is only one of the great variety we manufacture. Nothing neater could be desired in any house.

Lorenzen Mantels

$2.50 to $250

display individuality in every line. They are made of well-seasoned material, in all woods and finishes, and every detail of manufacture is carefully supervised to assure perfect construction.

We are at all times prepared to furnish designs of Mantels and Fireplaces, in Colonial, Craftsman, Modern Mission and Historic Styles, such as Louis XIV, Louis XV, Louis XVI, Renaissance, Gothic, Rococo, Empire, etc., also a complete line of Tile and Brick Mantels.

Send for Catalogue—Our new Book of Mantels, illustrated with 100 handsome photographic reproductions is now ready. Mailed **FREE** on request.

CHAS. F. LORENZEN & CO. Inc.

289 NORTH ASHLAND AVENUE, CHICAGO, ILLINOIS

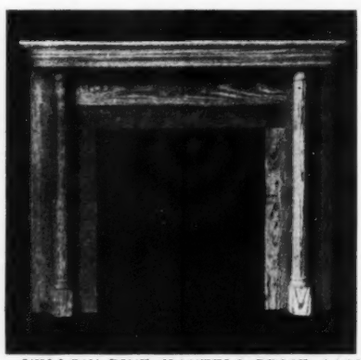
LORENZEN PAYS THE FREIGHT

HOLD! STOP!

Give us an opportunity to quote you on some item on this list

WINDOW FRAMES

Oak, Y. Pine and Poplar Balusters
Poplar Brackets
Poplar Porch Rail
Oak and Y. Pine Newel and Angle Posts
Oak and Y. Pine Corner and Base Blocks
Oak, Y. Pine Birch and Cypress Finish
Oak and Maple Flooring



YELLOW PINE MANTELS, PRICE, $4.00

WE ARE PLEASED TO QUOTE YOU ON ANY LIST YOU MAY SEND TO US

The Malta Manufacturing Co.

MALTA, OHIO



India Oilstones

HARD SHARP QUICK

Used Daily with Satisfaction by Up-to-Date Mechanics

Made in 59 Different Shapes and Coarse, Medium and Fine Grits

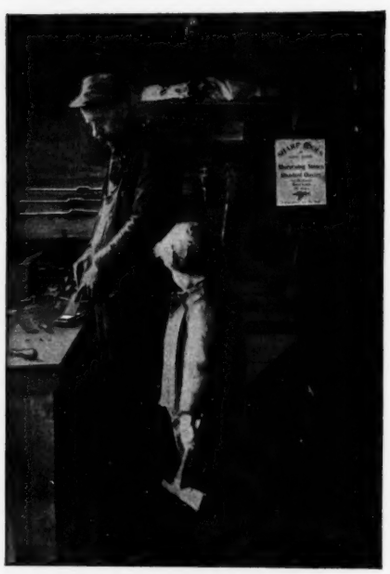
SOLD UNDER THE FOLLOWING GUARANTEE

"If this article should prove in any respect unsatisfactory, we agree to exchange or refund the full price paid for same."

Send for New Descriptive Booklet and Price List

Manufactured by **The Norton Co.,** Worcester, Mass.

Exclusive Sales Agents



PIKE MANUFACTURING CO., Pike, N. H.

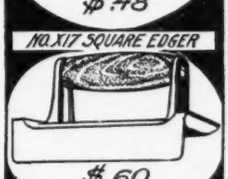












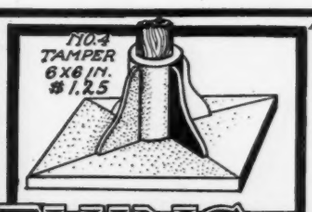


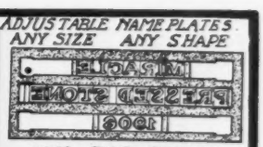












EVERYTHING IN CEMENT MACHINERY

MIRACLE ONE-MAN BRICK MACHINE



In selecting a Brick Machine one wants the very best. He wants one that will stand hard usage and lots of it. He wants one that will not be constantly calling for expensive repairs. The Miracle Machine answers these requirements. It is strong in every part. From the heavy iron standard to the delicate mechanism of its molding parts, it is a most durable machine. It is made for a capacity of 3,000 to 4,000 brick every day for many years to come and must be of the very best quality or it would not stand the wear. The man who buys a brick machine expects to use it for all there is in it and he cannot therefore afford to buy anything else but the very best and strongest machine made. Better to pay a little more, if necessary, at the start and buy a good machine that will last for years without repairs than to save a few dollars at the start and be squandering money for repairs for a year or two and then be obliged to buy another machine. Price $150, F. O. B. Minneapolis.

Read the following letter from a well pleased customer:

Roswell, New Mexico, June 29, 1906.

Miracle Pressed Stone Company, Minneapolis, Minn.

Gentlemen:—We want to express the utmost satisfaction we have experienced with your $150.00 Brick Machine. Your claims as to capacity are none too large, and it is a business proposition that is certainly a good one.

When we need any more brick machines, we are going to buy a Miracle.

Very truly yours. Hondo Stone Mfg. Co.

MIRACLE SEWER PIPE AND TILE MOLDS



Making Cement Pipe and Tile is the most profitable branch of the whole concrete industry. For $44.50 we furnish you a complete outfit for making 18-inch Bell-End Pipe. When you have sold fifty pieces of 18-inch pipe (100 feet), you have paid for your outfit and have a nice profit besides. For $57.50 we equip you with complete outfit for making 24-inch 2-foot Bell-End Pipe. The sale of fifty pieces of this size pipe will bring back your total investment and a profit besides.

The following is a letter from one of our Tile manufacturers.

Clarinda, Iowa, Dec. 17. 1906.

Miracle Pressed Stone Co., Minneapolis, Minn.

Gents:—The tile molds I find to be just the thing. We had a good sale of the tile, it was late in the year to buy these tile molds, but we have had a good trade. We made about 3,000 feet of a 12-inch tile 2,500 feet of 15-inch tile; and about 1,500 feet of 24-inch tile. I think they are better than clay tile. They will stand frost better, and the older they get the better they are. A clay tile is no better than the day it is put in the ground—cement gets better the longer it is in the ground. I know this to be true; I have made clay tile for sixteen years and am still making them. Yours, Paul O. Cook.

THE MIRACLE DOUBLE STAGGERED AIR SPACE BLOCK



The Miracle Double Staggered Air Space Block, always at the front, is advertised in the leading magazines so that people demand it. Price of complete equipment making 69 different sizes and styles of blocks, $250. Has wider range and greater capacity than any other machine made at anywhere near the price.

PNEUMATIC TAMPING EQUIPMENT

We are headquarters for pneumatic tamping tools and equipment, and Gas or Gasoline Engines for operating same. Our tools are adjusted for tamping concrete blocks, brick and sewer pipe. Ask for prices and complete description.

OUR 1907 CATALOG

We publish a large book on concrete—pages 9x12, with over 500 illustrations. It thoroughly covers the concrete industry, shows numerous buildings with size and cost, over 100 designs of blocks and the process of manufacturing; the proper mixing, curing, laying or coloring of the concrete, the proper principles of concrete construction, air spaces, etc.; full details on the manufacture, sale, use and the best machines for making Double Staggered Air Space Building Block, Cement Sewer Pipe and Drain Tile, Ornamental Stone etc.; listing also everything in tools and appliances from a sidewalk jointer to an air tamper, and hand and power concrete mixers, including also several low-priced single air space machines. Regular price, 25 cents. Sent free provided you say in which line you are interested and ask for catalog "K."

Miracle Pressed Stone Co.

LARGEST MANUFACTURERS OF CEMENT MACHINERY IN THE WORLD

MINNEAPOLIS, U.S.A.









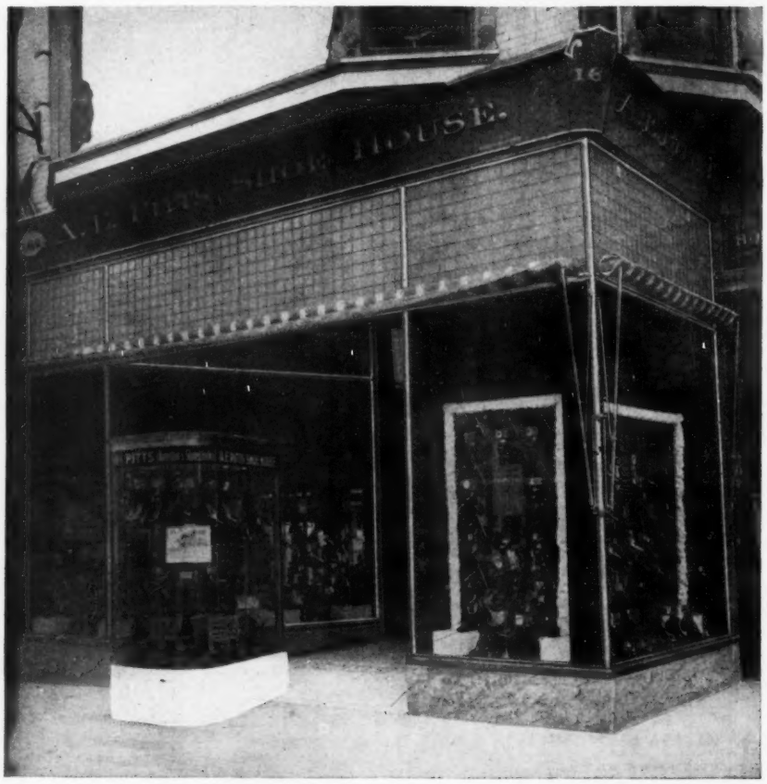












The Coulson Patent Store Front Construction

Was used in this store front, and you cannot fail to note what a neat appearing front is obtained by its use. If you are contemplating putting in a new store front, you should use this construction, as it is the best and only practical store front construction of its kind. Write for illustrated catalogue D. 800.

J. W. COULSON & CO.

Sole Owners and Manufacturers

Main Office, 96-98 North Third Street,
COLUMBUS, O.
Branch Office, 1123 Broadway,
NEW YORK, N. Y.

Are You Looking for a Cement Block Machine



which makes the best block in the shortest time, the greatest variety of styles as well as of sizes, a full line of veneer work as well as of regular blocks, etc., etc.? Then write for our descriptive Catalogue "A" and let us give you our reasons for these claims.

The Ashland Steel Range & Mfg. Co., - - Ashland, Ohio

NEW AND NOVEL BLOCK MACHINE

Various Shapes, Sizes and Designs Made on One Machine

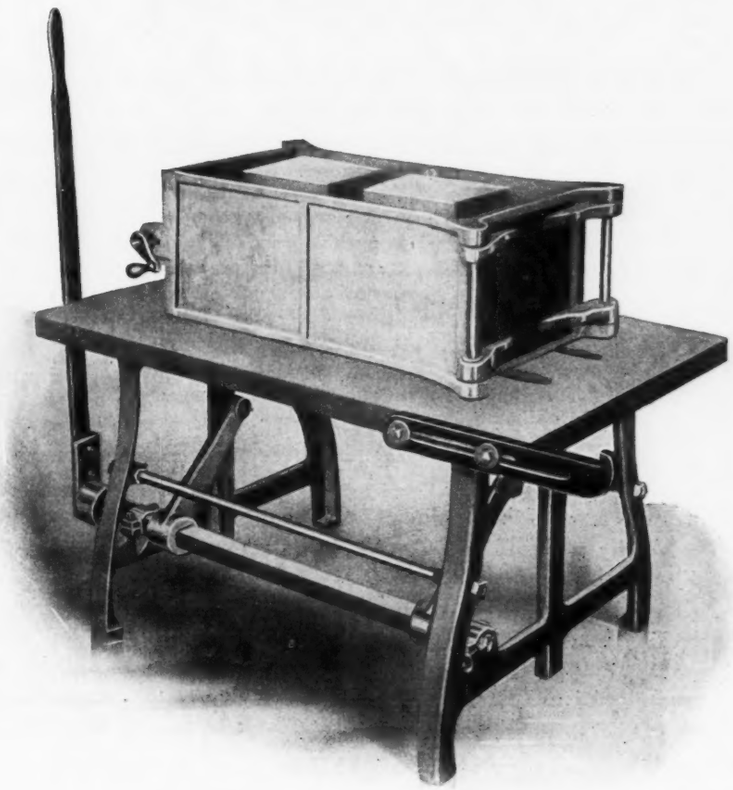
National Two-Piece Block Machinery

National One-Piece Hollow Block Machinery

Stationary and Portable Mixers

Fence Post Machinery

Moulds and Forms



Blocks Made on this Machine are

Complete in Detail

Artistic in Results

Practical for Construction

Profitable to the Manufacturers

Satisfactory to Purchasers

Beautiful

Durable

Symmetrical

VIEW OF 9 in. x 24 in. ONE PIECE BLOCK MACHINE
Closed with Cores up

With this machine, you can make our Celebrated National Two-piece block (two blocks in one operation) in various heights, thicknesses and lengths. Heights running 12 in. 9 in. and 4½ in. Thicknesses from 8 in. to 16 in. and lengths from 6 in. to 24 in. Five distinct rock face designs, panel face, broken ashler, horizontal and vertical tool face, etc.

By simply changing the core and the pallets, this machine can be used to manufacture a one-piece block in various sizes. Also porch column blocks can be made on this machine by a change of core and doors, these in sizes from 8 in. square by 9 in. high, to 16 in. square by 9 in. high, ranging 8 in., 10 in., 12 in., 14 in. and 16 in. square. This machine is something novel and entirely new on the market, inasmuch as it contains these various features whereby you can manufacture our Celebrated National Two-piece block, our veneering system, our one-piece block, as well as the porch column work.

Send for Handsome Illustrated Catalogue FREE

We also manufacture sill, water table, coping, step cap and lintel moulds in various sizes and designs. These are made in wood of the very best kind and we furnish with each set two eccentric clamps, two feet long with two end pieces, one cut off, and one pallet for each mold.

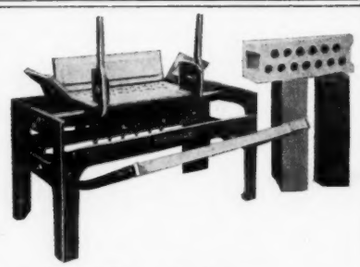
Ask for Descriptive Booklet of our **Stationary and Portable Concrete Mixers** And also of our **Post Machine**

National Concrete Machinery Company
Milwaukee, Wisconsin



The Noble Cement Mill

Is the Cement User's Friend



It puts new life into old cement, and makes lumpy cement smooth and fluffy as the freshest.

No mote riddling; no more waste.

The mill is built on scientific principles, milled steel rolls, differential gear, large hopper and bin, with a drawer ample for 1-4 bbl.

Capacity, one bbl. in 8 minutes. Price so low you cannot afford to be without it.

The Noble Cement Block Machine

makes rough hewn stone all day and never repeats a design, and our wall looks just what it is—rough hewn stone. **No two blocks alike.** No other machine has this feature.

NOBLE CONCRETE MACHINERY CO. - - - Fostoria, Ohio

The Springfield

Face Down Hollow Concrete Block

Patented January 1907



Has features not found on other machines. With the same mold can be made blocks 8, 10 and 12 inches in thickness without cost of extra equipment.

A WET MIXTURE

can be used with the Springfield, as the Back Plate comes forward with the mold, instead of the green block being drawn away from the back plate as on most machines.

$95.00 OUTFIT CONSISTS AS FOLLOWS:

One complete machine as described.

Nine Face Plates. Six Designs. Nine End Doors. One Angle Block Attachment. Face Plate for Angle Block. One Tamper. One Carrier to Off Bear Blocks Attachments to make Joist, Chimney, Porch Piers, Solid Half and Quarter Blocks.



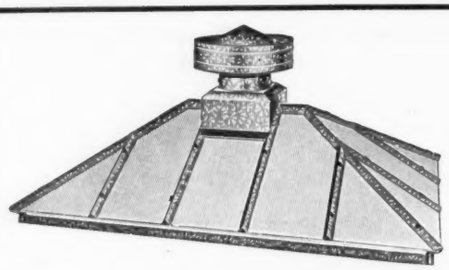
One Man Brick Machine $30.00

Includes 25 pallets, face plates for both smooth and rock face bricks.

All machines sold ON TRIAL. Don't buy until you see our 1907 Catalog, which will be sent to interested parties free.

Made and sold by the **Reed Mfg. Co.,** BOX 140, SPRINGFIELD, OHIO

Eastern Office, Reed Mfg. Co., 306 Bond Bldg., Washington, D. C.



SKYLIGHTS

DO YOU WANT

PERFECT LIGHT

COMBINED WITH

PERFECT VENTILATION?

If so, investigate the WILLIS Ventilators and Skylights.

Our Skylights are made in seven different styles, and can be set up by any person of ordinary ability without the use of tools or solder and have a perfectly water-tight job.

Send for Catalogue No. 5 of Skylights, Cornices, Crestings, Finials etc.

WILLIS MFG. CO.

GALESBURG, ILL.

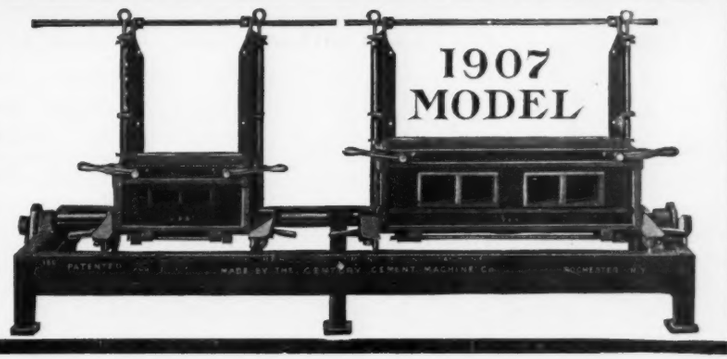
Original makers of the Willis Hip Shingle.

Concrete Block Making

——has reached——

Perfection

with the



Hercules Machine

If you are going into the Concrete Block business—go into it right—Buy a machine that will do everything that all other machines will do—and other things besides.

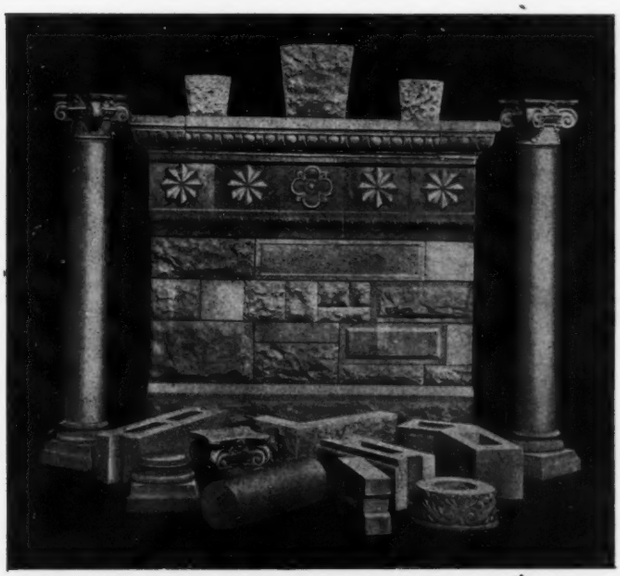
Get a machine that will stand the racket—a machine built so strongly and so simply that repairs are seldom necessary, and annoying delays never occur.

The **Hercules** is a model of simplicity—No pins—No levers—No chains—No springs—No clumsy gears to clog, and let us say right here that simplicity and strength in Concrete Machinery is of the utmost importance.

The scrap heap and the **Hercules** are not on speaking terms, which cannot be said of many of the complicated outfits labeled "Concrete Block Machines."

You tamp on the face with the **Hercules**—that's why stone made on the **Hercules** has a clean, sharp impression like natural stone.

The **Hercules** in addition to making a larger variety of Blocks than any other Machine, also makes water tables, sills, lintels, steps, etc., up to six feet it length.



The Hercules makes two Blocks on the one machine at the same time, thus doubling its capacity.

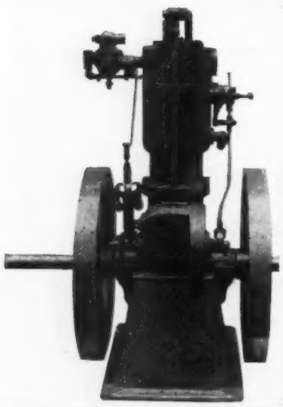
If you want a machine with which to outstrip your competitors, you must get the **Hercules.**

Our new Catalog is a mine of information to the Concrete Block maker, and we will gladly send it **Free** upon request.

Ask for Catalog XX

Century Cement Machine Co.

273 West Main Street
Rochester, N. Y.



The POWER for the CONTRACTOR and BUILDER

FROM 2-50 HORSE POWER—PORTABLE OR STATIONARY

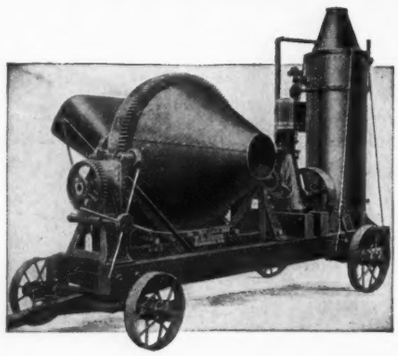
DISTINGUISHING POINTS OF THE MECKLENBERG ENGINE

An Absolute and Simple Governor. Either Make and Break or Jump Spark Ignition. A Certain and Reliable Cooling System. Best Workmanship and Materials.

RELIABILITY

An ABSOLUTE GUARANTEE goes with every Engine. We can refer you to any number of satisfied contractors who are using our engines.
Write for Illustrated Catalogue No. 204-C, stating the horse power needed.

THE MECKLENBERG GAS AND GASOLINE ENGINE CO.
SOUTH BEND, IND., U. S. A.



WHAT IS MIXING?

Mixing is tearing apart two particles of the same material and placing a particle of a different material between them.

Blades in a Mixing Drum act as disintegrators. They help tear the particles apart, permitting other particles to fall between them, thus producing a thorough and uniform mixture.

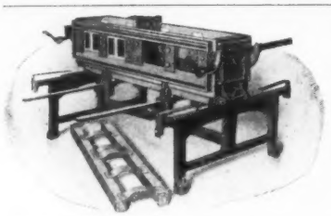
Disintegration must always precede mixing. This is the way the

Smith Mixer Mixes

Kneading is not mixing. Some mixers subject the aggregation to a kneading process and then claim that they mix. Write for catalog.

Contractors' Supply and Equipment Co.

MAIN OFFICES: 525 Old Colony Building, CHICAGO, ILL.



The Francisco Block Machine

makes blocks from cracked stone or gravel for 1-3 less cost than sand. Is a down-face machine. Our double machine has double the capacity of any single machine, makes two 20 in. block at one operation, both blocks carried off on the same pallet. NO MATTER HOW MANY MACHINES YOU HAVE, if you will give this machine a trial you will not return it. It makes long stone up to 6 feet. Don't stand in your own light. Let us send you a machine on TEN DAYS TRIAL; the price will surprise you. Send for catalogue "G" showing six different sizes of machines. Also Fence Post Machine. Agents wanted.

FRANCISCO BLOCK MACHINE CO.

338 North High St. COLUMBUS, OHIO

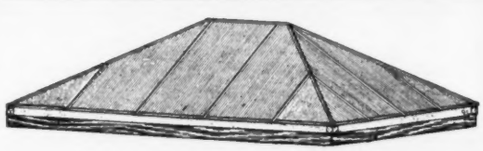
KNOCKED DOWN SKYLIGHTS

Can be shipped anywhere safely at a low freight rate. Can be set up by any handy man, no soldering, no putty and no leaks.

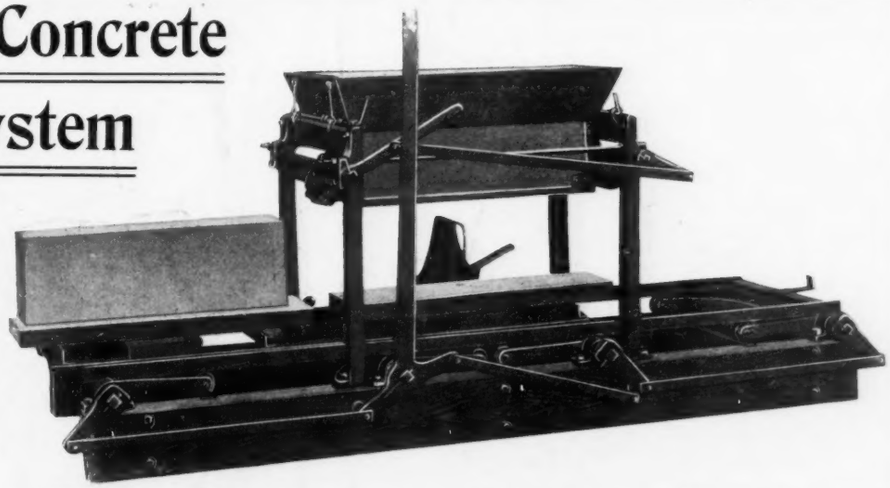
CATALOG FOR THE ASKING.

GALESBURG CORNICE WORKS,

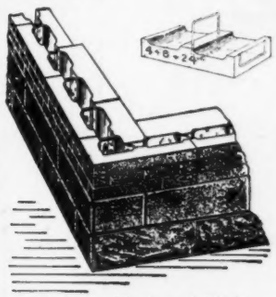
140 E. Ferris Street, GALESBURG, ILL.



Nodamp Concrete Block System



Has Continuous Air Space in all directions throughout wall.
No Concrete Webs to conduct frost and moisture.
Inside wall always dry.
Saves cost of furring, lath and brown coat of plaster.



Nodamp Block and Wall.

The Nodamp Block Machine

Is simple, rapid, durable, makes blocks two to eight inches thick and wall any thickness desired. It DESTROYS COMPETITION and is a MONEY-MAKER. ***Recommended by inspectors from Department of Buildings of the cities of Chicago and Minneapolis.*** Write for Catalogue D, for full description, price and terms.

Nodamp Concrete Block Machine Co.

2711 NORTHWESTERN BLDG., MINNEAPOLIS, MINN.

THE CELEBRATED

"National" Block Machine

IS A WONDER

DO YOU WANT the greatest value for your money?

DO YOU WANT the block machine that will give you a pride in your work—and bring you more work?

DO YOU WANT the simplest face down block machine on Earth made on scientific principles?

DO YOU WANT the block machine with the fewest parts with nothing that can get out of order?

DO YOU WANT the block machine that can make all sizes ot blocks on the one pallet board?

DO YOU WANT a completed block machine that will make blocks of all angles and all sizes without having to buy extras?

DO YOU WANT the block machine that produces the best work. that is a constant advertisement for your business?

DO YOU WANT the block machine that is easiest in operation and of greatest capacity?

DO YOU WANT the block machine that will last a life time?

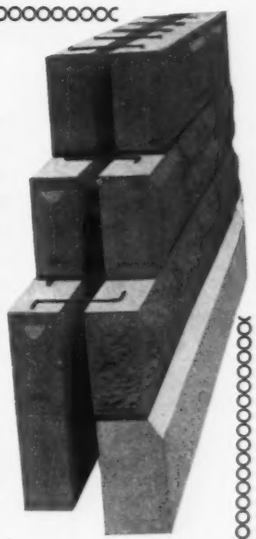
DO YOU WANT the only block machine that, judged by its product, is the best?

If you want all these you must have a "NATIONAL."

National Cement Machine Company,
BAY CITY, MICHIGAN
Woodruff Bros., Old Forge, N. Y., Agents for New York State.

The Concrete Wall of the Future

The Edmondson Two Piece System



NO POSSIBLE chance of heat, frost or moisture penetrating through this wall. The continuous air space prevents—continuous all around the building and from cellar to garret.

No other form of block construction secures these results at so low cost—no other at any cost is more satisfactory.

Two men with an Edmondson machine have made 600 perfect blocks in 10 hours—have done it repeatedly. Blocks up to 4x8x16. Face down.

If you want the block machine that pays best and satisfies most write us today for circular

The Edmondson Concrete Machinery Co.
1543 Williams Street
SOUTH BEND, IND., U. S. A.

"The MILES"
STILL SETS THE PACE



Speedy, Simple and Serviceable. A written guarantee with every machine. Makes all styles of blocks **Face Down.**

Get **"Our Proposition"** before you buy.

The P. B. MILES MFG. CO., Inc.
109 West Cortland Street, Jackson, Mich.
Established 1903 Incorporated 1907
WRITE FOR CATALOG D AT ONCE

WINNER BRICK MACHINE



Brick Machines from $35.00 to $150.00

Block Machines from $35.00 to $200.00

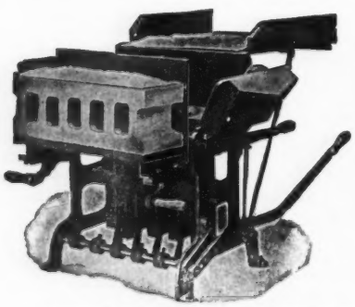
WINNER No. 1

Machine for All Hollow, Part Hollow, or Solid Brick. It saves 15 to 20 per cent material. Makes more than twenty different sizes in length and thickness.

Send for 1907 Catalogue showing cuts of a complete line of Concrete Brick and Block Machines, Hand and Power Mixers, Special Molds for Concrete Columns and Ballusters, Concrete Tools, etc.

WINNER BLOCK MACHINE CO.
6th Floor, NORTHWESTERN BLDG., MINNEAPOLIS, MINN.

SIMPLICITY CONCRETE BLOCK MACHINE



Can you afford to experiment?

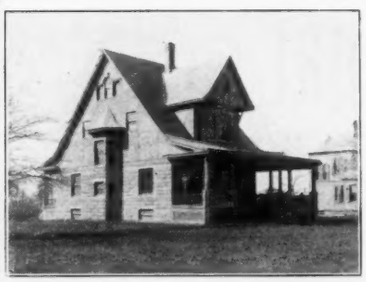
Why not take advantage of our long experience and purchase a machine that has proven successful in every particular. Many hundreds of **SIMPLICITY MACHINES** and thousands of **SIMPLICITY BLOCKS** used daily in all parts of the world

Ask for catalogue and price.

THE STANDARD SAND & MACHINE CO.
CLEVELAND, OHIO

Manufacturers of
Concrete Block Machinery, Elevating and Conveying Machinery, Sand Mixers, Sand Dryers, Etc.

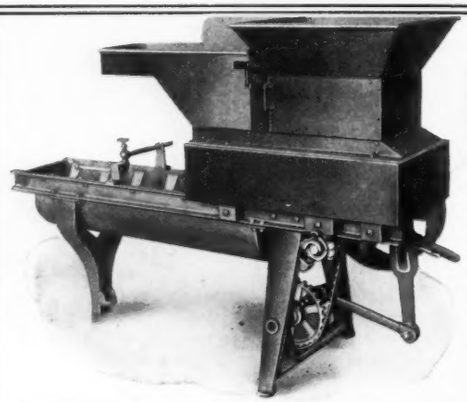
CONCRETE BLOCK BUILDINGS



My Book $1.00

contains perspective sketches, photographic reproductions, floor plans, estimated costs and descriptions of Concrete Block Buildings. Plans and specifications will be furnished for the reasonable prices stated therein. Book will be sent to any address upon receipt of one dollar. If you are going to build do not fail to send for this book, also for my rates for special plans

WM. M. KINGSLEY, Architect, 1012 Rockefeller Bldg., Cleveland, Ohio



THE

Standard Continuous Concrete Mixer

"The Mixer that Measures and Mixes."
"You fill the Hoppers, the Mixer does the rest."
Continuous, Automatic Feed: Exact Proportions

A perfect mix, both wet and dry. Output instantly variable from 0 to Maximum at will of operator, thus insuring fresh material for each block. Feeds accurately sand and gravel, dry or wet. Simple, efficient, reliable, economical, durable and moderate in price. Write for description and prices to

The Standard Machine Co. KENT, OHIO



This engraving shows a portion of the yard of T. J. Norris, Greenfield, Ohio. (Price of molds used, $93.00) Any contractor, block maker or builder can duplicate it, and get orders for all the porch work he can take care of, at far larger profits than on any other class of his work. Some of our customers report that, although building in their neighborhood will not be so heavy as last year, they will be crowded all summer replacing old, unsightly wood porches.

We make many attractive designs not shown above, and will send prices and all fnformation about the molds, cost of manufacture and selling prices of blocks, with half-tone engravings showing many beautiful porches. Write us for this information. It will pay you.

Anyone who will follow simple directions can produce perfect results. We guarantee this.

SIMPSON CEMENT MOLD CO. **COLUMBUS, OHIO**

Eastern and Export Sales Agent
W. E. DISBROW, 47 Lispenard St., NEW YORK

Pacific Coast Sales Agent
GEO. B. THOMAS, 340 College St., PORTLAND, ORE.

Both of these have molds and blocks on display.



HOOSIER 16-inch FACE DOWN BLOCK MACHINE

"The Machine they are talking about"

One size pallet for 3 widths. Notice it saves you the price of another machine right on the start in pallets alone. Latest of attachments and designs; lowest price; pay for what you want, and no more.

Favorite Mechanical Tamping Cement Brick Machines

No. 1 for 20 brick; No. 2 for 10 brick: No. 3 for 5 brick: No. 4 for 2 brick. Adopted by two governments. Absolutely unequaled. The best. Does away with hand tamping. No power. Cheap. Straight, corner, octagon, circle and ornamental designs. Makes blocks also. Get catalog.

CEMENT MACHINERY COMPANY
JACKSON, MICHIGAN

The only face down machine on the market with an L block attachment



Formerly manufactured by Hoosier Mfg. Co., Auburn, Ind.

THE UNITED

Cement Machinery Mfg. Co.

1906 INC.

COLUMBUS, OHIO

Manufacturers under the original and fundamental patents of H. S. Palmer, Winget, Sanderson, McDowell and a number of others.

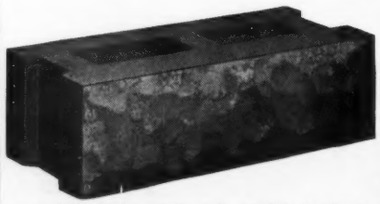
The best of everything in the Cement Moulding and Mixing Machinery and Tools.

WE HAVE THE LARGEST WAREROOMS AND DEMONSTRATING PLANT IN THE WORLD. We have 40 different kinds of Cement Working Machines ready to show in practical operation.

In our large assortment we have the best Block Machines in both Face-down and Side-face that can be bought. Our Continuous Mixers and Batch Mixers cannot be equaled in results and price. **OUR OFFER**—We pay railroad fares that you may see any or all of these machines in operation before deciding what you want. If we cannot satisfy you we have the best, we still pay your fares.

DO NOT FAIL TO SEND FOR OUR DESCRIPTIVE CATALOG.

Front and Maple Streets - - - - - COLUMBUS, OHIO, U. S. A.



We Move the Machine NOT THE BLOCKS

Saves labor of off bearing, loss by damage; obviates necessity for heavy and expensive iron pallets. Reduces cost of plant and cost of operation. Every one knows that concrete should not be disturbed after it is molded or while it is setting, but this is the only machine by which this is possible. The blocks cost 6 cents to make—sell for 18 cents. One man can make 200 blocks per day. Whole outfit costs $125.00. Figure the profits.

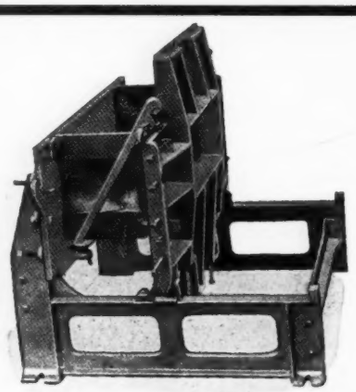
Competition simply demonstrates the superiority of the Pettyjohn machine. Unlimited guarantee. SENT ON TRIAL



THE PETTYJOHN COMPANY

634 No. 6th Street, TERRE HAUTE, IND.

GET THE BEST



Coltrin Mfg. Co.'s Block Mold.

The Coltrin Mfg. Co.'s improved Cement Block Machine makes blocks face down or side face—combines four machines in one.

It is the most **Rapid** and **Simplest** machine on the market.

It will turn out blocks of **Any Size, Design,** etc., without removing a bolt, nut or screw.

It has the only "collapsible core" that frees itself from the molded block **Perfectly.**

Price well within reach of every **Contractor and Builder.** Send for catalogue No. 7.

The COLTRIN MFG. CO.

Rear 140 W. Main St. JACKSON, MICH.

A BLOCK MACHINE

For One-Fourth what the Other Fellow Asks

People say how can you do it. Easy enough when you realize **THAT** we manufacture every part of it ourselves from the raw material to the finished product. No middleman's profit. **THAT** we employ no traveling salesmen.

$28.75

F. O. B. Minneapolis



'The Yeller Feller"

THAT it is a spot cash proposition. The man who buys the "YELLER FELLER" don't have to pay the expense of collection, bookkeeper, and a certain percentage of loss which always follows the credit business.

THAT we get one small profit from manufacturer to you.

THAT by putting the price we have on this machine, our volume of business will be so large and expenses so small that we will make a satisfactory profit on a small margin.

Remember we will not accept any order unless accompanied by draft for $10; balance on receipt of goods. We guarantee the machine in all respects.

Yours for business,

POPULAR BLOCK MACHINE COMPANY.

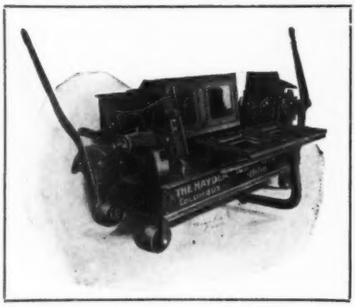
P. O. Box 115 MINNEAPOLIS, MINN

THE HAYDEN AUTOMATIC BLOCK MACHINE CO.

112 W. Broad St., Columbus, Ohio

Manufacturers of High Grade

CONCRETE BLOCK MACHINES, MIXERS, STONE CRUSHERS, ETC.



The Hayden Down Face Machine.

The Most Simple and Effective Mechanical Principles Embodied in this Mixer

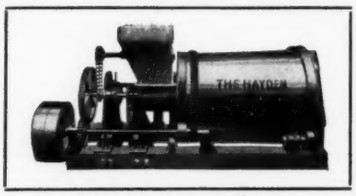
POINTS OF SUPERIORITY IN THE HAYDEN MACHINE

Great Strength ... Limitless Range ... Rapidity

Ease of Operation ... Simplicity of Construction

BUY A HAYDEN FOR RESULTS

Send for Catalogue M Today



The Hayden Improved Mixer.

New York and Foreign Office

Hayden Automatic & Equipment Co.

26 Cortlandt St., New York

The Peerless

(ONE-MAN) Cement Brick Machine



Write for Our 1907 Catalogue

This popular one-man machine is now in general use all over the United States, and giving universal satisfaction in large as well as small plants. While simple in operation, it is a wonder for fast and perfect work. Capacity, 3,000 to 4,000 per day.

Price is right. Manufactured by the

Peerless Brick Machine Co.

No. 7 Sixth Street North **MINNEAPOLIS, MINN.**

THE KING CEMENT BRICK MACHINE

One Man Machine



Makes 10 Brick at Each Operation

Price $40.00

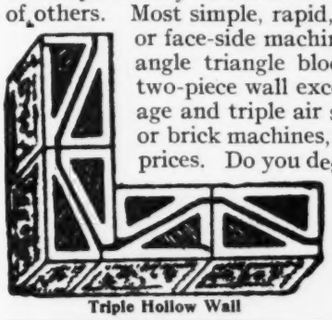
Why pay more? This machine makes brick equal to the best. In speed it is not excelled by the highest priced machines. Write for catalog.

W. E. DUNN & CO.,

339 Grand Avenue,
CHICAGO

The "Reed" Machines are in the "Lead"

The adjustability of our 1907 machines is a marvel, putting them far in the lead of others. Most simple, rapid, up-to-date machines on the market. Face-down or face-side machines, producing single, double, hollow or right-angle triangle blocks. Best brick machines out. Our system of two-piece wall excels all others on account of the natural bondage and triple air space. When in the market for concrete block or brick machines, as well as concrete mixer, get our catalogue and prices. Do you desire to make $$$$$$$$? We can start you right.

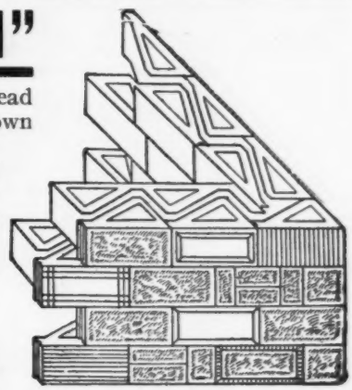


Triple Hollow Wall

Reliable Agents wanted. One Agent earned $365.00 in thirty days.

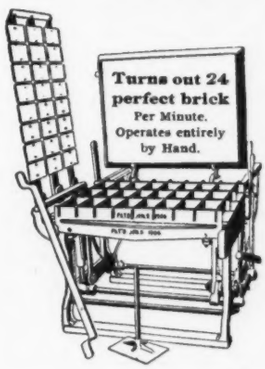
Wichita Coal & Material Co.

WICHITA, KANSAS **U. S. A.**



Right Angle Blocks

A REVOLUTION in the BUILDING TRADE



is sure to follow the introduction of the

Lightning Cement Pressed Brick Machine

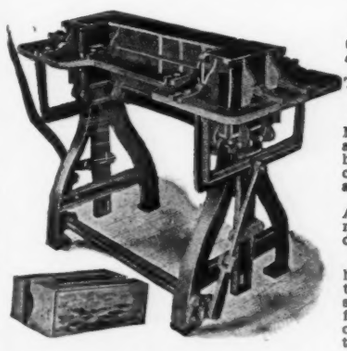
in your locality. Get in on the ground floor. Purchase a machine and supply the demand.

THIS MEANS MONEY TO YOU

Made in three sizes, Six, Sixteen and Twenty-four Brick at an operation.

Write for particulars at once to

WETTLAUFER BROS.,
497 ELLICOTT ST. BUFFALO, N. Y.
or our Canadian office
STRATFORD, ONTARIO.



THE WALTON Stone Machine

Two-piece wall system makes

DRY WALLS

Makes lengths from 4 to 32 in and 3, 4 1-2, 6 and 9 in. heights. 10, 12, 14 and 16 ft. circles. 30 and 45 degree angles.

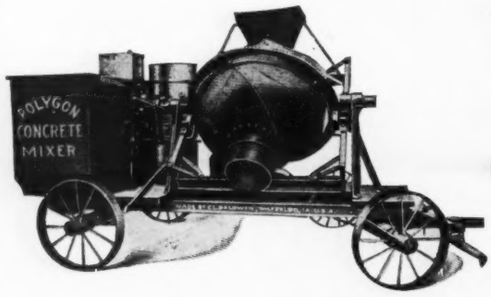
All widths by lapping blocks All shapes, lengths and width made on the same pallet. Reducing cores save material.

LET US TELL YOU

how we save labor, save material, save pallets, save expensive facings, save 8c. per cubic foot over others machines by our method. Send for illustrated catalogue

WALTON STONE MACHINE CO.

2502 East 18th Street, - - - KANSAS CITY, MO



"Birds of a feather"—

and they are not old crows, either:

Polygon Concrete Mixer
Yale Gasoline Engine
Stewart Cement Block Machine

We are proud of them all; each is a success and one sells the other. Once our customer, always our customer. We know what is needed by the cement contractor and are filling those needs with machines of genuine merit at prices that enable our customers to eat cake as well as for us to eat cookies. We sell everything on a solid guarantee.

Write for Bulletin No. 5.



Waterloo Cement Machinery Co.
Waterloo, Iowa

Contractors' Friend

THIS MACHINE IS SEVERAL IN ONE



It makes over 300 different kinds of blocks in all styles and sizes from 8x8x24 inch to brick sizes. The 4x5x12 and the 4x4x12 are the recognized sizes for building nice residences and cottages.

This machine makes two blocks at a time on one pallet, 800—1000 blocks per day.

ONE MAN CAN WORK IT.

It is a Down Face Machine for every style of block. Two sizes of pallets will make every kind of block. Pallets made of wood.

The only machine that will make WATER-PROOF CEMENT BLOCKS and BRICK. Strong statements, aren't they? Write us and find out why they are so.

The price of this Machine for all Face Plates and Fractions, and for all Styles of Blocks is ONE HUNDRED DOLLAR F. O. B. cars at Mansfield, Ohio.

Without the Attachment for Hollow, 8x8x24 inch B ocks SEVENTY-FIVE DOLLARS.

Our Guarantee: If not exactly as represented, return the machine and receive your money back. **Good Bank References.**

Address **L. L. PARRY,** Mansfield, Ohio.

The Number 6

Coltrin Concrete Mixer

Mounted with 1½ H. P. Gasoline Engine

SHIPPED ON TRIAL

Capacity 12 cubic yards per hour on crusher run stone



Engine cools with half pail water carried in water jacket surrounding cylinder and extending above it, with open top.

NO DAMAGE IF WATER FREEZES SOLID

We have tried this feature out thoroughly **in ZERO weather**

Weight 1500 Pounds

The Knickerbocker Company
Jackson, Michigan

Waterloo Concrete Brick & Block Mach. Co.



ONE movement of the lever operates the **ENTIRE** machine, consuming the least time for operation of any machine. Two men will make 250 blocks per day.

Our block is patented. Has double, a vertical and horizontal air space

The brick attachment makes 18 brick as easily as a block.

No gears or chains to clog or break.

Write for catalgue "B." **O. H. SWEENEY, Sec.**

Agents Wanted. 101 E. 4th St. WATERLOO, IOWA.

Southern Agents, SILVERA & GADSDEN, Savannah, Ga.

Agents for the Pacific Coast, C. J. TALLON & CO., 618 Bailey Building, Seattle, Wash.

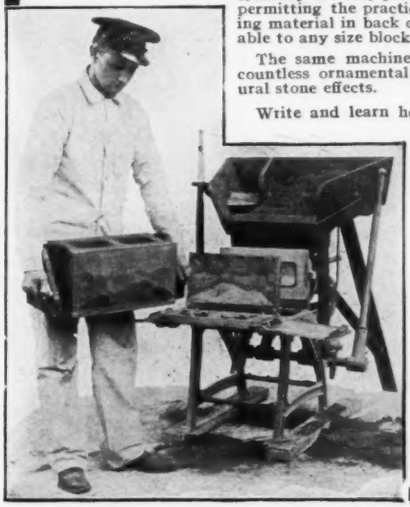
Defy Competition

The Ideal Concrete Machine for the manufacture of Concrete Building Blocks makes it possible to profitably undersell all other building materials in all localities.

Ideal Blocks can be sold far below the cost of brick, lumber or natural stone. Excel them all in durability and fire and weather-proof qualities. Adaptable to any possible architectural design.

IDEAL CONCRETE MACHINERY

Wonderfully simple in construction. No chains, springs or gears. Embody the only principle (face down) permitting the practical use of rich facing material in back of blocks. Adaptable to any size block within capacity.



The same machine makes blocks in countless ornamental designs and natural stone effects.

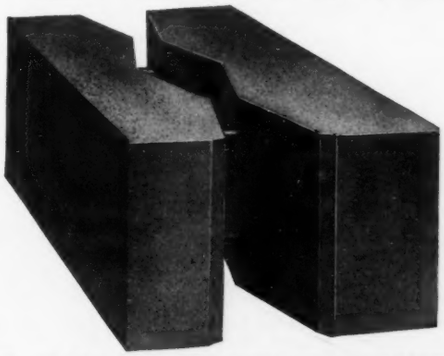
Write and learn how easily, rapidly and profitably **one man** can turn out Concrete Building Blocks with an Ideal machine.

Ideal Concrete Machinery Co., Ltd.
Department I, South Bend, Indiana

MUSSEN'S LIMITED
Montreal, Canada
Sole Agents for Canada

ANCHOR CONCRETE STONE MACHINES

Make This Continuous Air-Space Block



TWO SLABS OF CONCRETE TIED TOGETHER with four one-quarter inch galvanized iron rods firmly imbedded in the block in its construction. Blocks lay in the wall 8 in. high, 24 in. long, 8 to 16 in. wide.

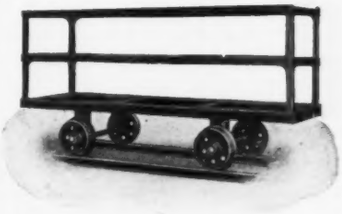
Easy to Make Easy to Lay Look Fine
Very Strong Frost Proof Moisture Proof

Capacity of Machine:
300 PERFECT BLOCKS PER DAY

Write for Special Low Prices and Catalog of Machines

ANCHOR CONCRETE STONE COMPANY
ROCK RAPIDS : : : : : IOWA
Eastern Agency, No. 1 Madison Ave., New York City, ALBERT OLIVER, Mgr.

Chase Roller Bearing Cars



For Concrete Block and Brick. Transfer Cars and Trucks of all kinds. Write us for Catalog.

FIG. 202 DRYING CAR

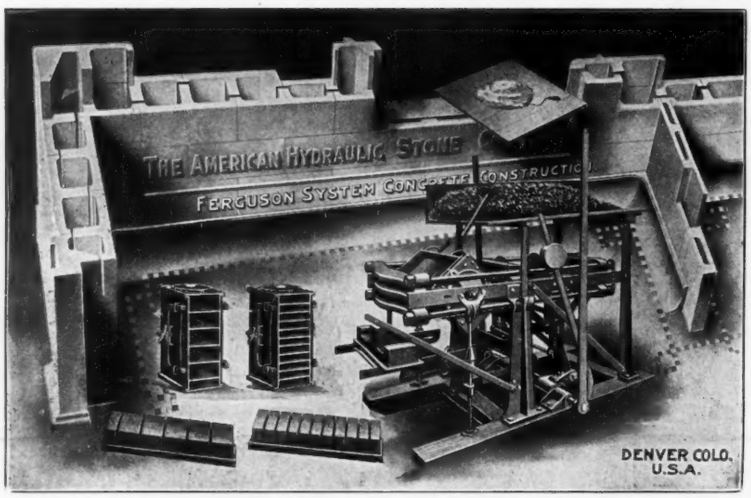
Chase Foundry & Mfg. Co.
COLUMBUS :: :: :: OHIO



THE BEAVERS FAST BUILDING MACHINE

The outfit includes twenty-four different molds, each ranging in length from 10 to 24 inches and 8 inches wide We have 30 other molds in stock. We have the facilities for casting any design you desire. Write us your wants. We will gladly give you any information about our machine or the concrete business in general. This machine has a capacity of 900 blocks per day

OLSON & RICHARDSON
Stoughton, Wis., U. S. A.

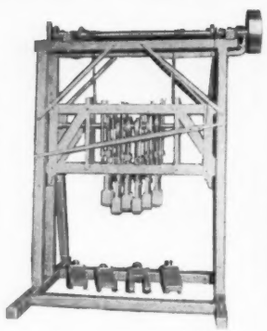


TWO-Piece Hollow Concrete Wall and Partition, containing Header Bond and Continuous Horizontal Air Space. Impervious to Heat, Cold, Moisture and Sound. Fire and Vermin-Proof. Walls of all widths; blocks of all shapes and sizes. New Hand Press enables three men (mixture supplied) to make 1200 blocks, 10000 brick or 5000 paving blocks in 10 hours. THE WALLS OF A COTTAGE ARE THE WORK OF A SINGLE DAY. 80 page catalog, fully illustrated, mailed upon request.

The American Hydraulic Stone Co. Century Building Denver, Colo.

KRAMER TAMPERS

HANDLED BY ONE MAN



CAPACITY UNLIMITED

If you knew of a man that you could hire, that could tamp eight or ten times as many blocks in one day as the man you now employ you would hire him at two or three times the salary you now pay. You would not be a business man if you did not. Here is another such proposition: The Kramer Tamper will tamp 8 or 10 times as many blocks as one man and produce a better article, only requiring one man to operate. Write for particulars today. Give name and size of block machine you wish to have tamper work on.

KRAMER AUTOMATIC TAMPER CO.

DEPT. A PEORIA, ILL.

Concrete Construction is Incomplete

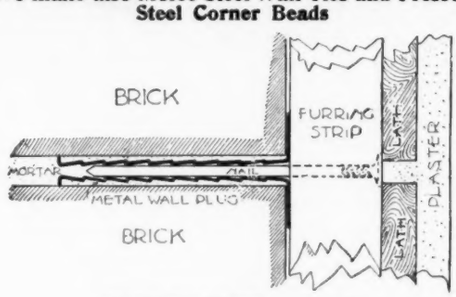
Without Our



RUTTY METAL WALL PLUGS

They are laid instantly, are indestructible, yet cost less than any other method. Previous difficulties of securing interior finish are entirely overcome by the use of the Rutty Plug.

We make also Morse Steel Wall Ties and Prescott Steel Corner Beads



Furring Out on Brick or Concrete

Send for Samples and Catalog

J. B. PRESCOTT & SON, Foundry Ave., Webster, Mass.

Standard Concrete Machinery

Pat. in U.S., Canada & Abroad



Made in Four Sizes—5, 10, 20 and 40

THE STANDARD CEMENT BRICK MACHINE is the fastest hand brick machine on the market; will make plain, veneered, and ornamental face and shape; all perfect, smooth brick, true to size and design.

THE STANDARD CONCRETE MIXER handles wet or dry mix; requires little power to operate; mixes batch perfectly in one minute; self-cleaning; easily charged and dumped.

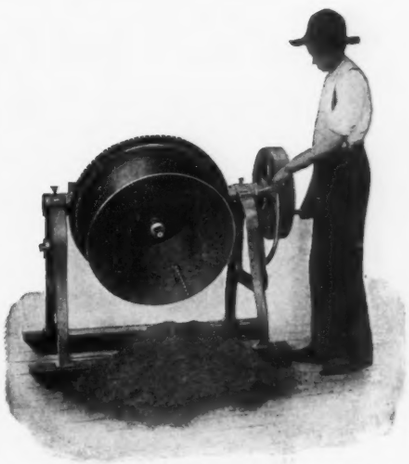
THE STANDARD GAS AND GASOLINE ENGINE is made in all sizes. Especially adapted to running concrete machinery.

THE STANDARD PORTABLE MIXER AND ENGINE are mounted on suitable truck; well designed; convenient to operate.

WRITE FOR CATALOGUE AND PRICES

SOUTH BEND MACHINE MANUFACTURING CO.

1803 South Franklin Street : : : : SOUTH BEND, IND.



Hand Power STANDARD Concrete Mixer, Ball Bearing, especially adapted to brick and block work where large capacity is unnecessary

Weight 600 lbs. Price $95.00



Dykema Continuous Cube Concrete Mixer $115.00.

A hand power, continuous cube mixer, perfect mix, low feed, "Direct to you" price, mixer with engine $250 up.



Dykema Cement Brick Machine $35.00.

Makes five face down brick. A quick, handy machine at a low price. Ten brick machine, same style, $65.00.

Send for 1907 Catalog, just out. Book cement building plans 30c.

DYKEMA COMPANY

2627 Huron St. : : GRAND RAPIDS, MICH.

CONCRETE MACHINERY FOR BRICK AND BLOCK PLANTS

Mailed Free

on receipt of request on your letterhead

Twelve Booklets

Giving money-making information

About Concrete

On brick and block machines our prices range from $25.00 up. A complete line of machines, mixers, special moulds, trucks and cars.

Our specialists install complete plants when desired.

Use this complete address:

Queen City Brick Machine Co.

So. Front St., Traverse City, Mich.

A WAY TO PREVENT DAMP WALLS

USE THE "BERLIN SYSTEM"

THE FRANCIS CONCRETE BLOCK MACHINE "MEANS ECONOMY"

Using Medium Wet (Plastic) Concrete

Move Machine—Not the Block.

The demand of the times is for quality. But it takes price to clinch sales. This is the crowning virtue of the Francis Machine Medium wet (plastic) concrete is easy to mix and tamp and attains double the hardness attained by ordinary damp mix concrete.

The adjustment of the machine permits the making of all fractional lengths, Stretchers, Corners Octagon Blocks, Keystone, Lintels, Well Curbing, Porch Pier and Flue Blocks.

Sill and Step Attachment, Cement Brick Machines (Fancy Plates), Baluster and Column Moulds.

FRANCIS MACHINERY CO.

Room 12, 806 Chestnut St. ST. LOUIS, U. S. A.



"BERLIN SYSTEM MEANS QUALITY."

WHEN You want a block that is Guaranteed to be Absolutely Damp-Proof

That makes a Dry Wall

That Will Not Sweat

That is Hard and Durable

That is Frost Proof

That Looks Like Stone

That can be made at a Lower Cost than by any other method



USE THE "BERLIN SYSTEM"

WANTED Concrete Block Makers who are not satisfied with their present methods, to use the "Berlin System."

The Best is The Cheapest



The 1907 Brandell Concrete Block Machine is the most improved one-man face-down machine on the market. **Its automatically self-locking mould is the greatest saver of labor and time.**

Famous for its

SIMPLICITY in OPERATION and CONSTRUCTION
RAPIDITY
DURABILITY
ECONOMY

Send for booklet D

Capacity, 240 blocks a day

Brandell Concrete Block Machine Co.

130 Dearborn Street, Chicago, Ill.

EVERY Made **BLOCK** With a



Nurock Block Machine

The value of a block machine does not depend so much upon what it costs as upon what it will produce and the class of blocks it will make.

It will pay to investigate the NUROCK before purchasing.

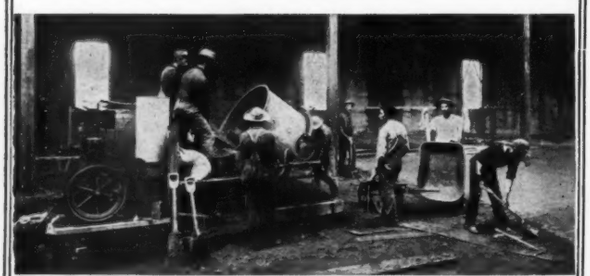
SEND FOR 1907 CATALOG

NUROCK MACHINE COMPANY

DELEVAN, N. Y.

THE SNELL MIXERS

Easy to { LOAD / OPERATE / DISCHARGE / CLEAN



The Snell Mixers are Adapted

For all Classes of Concrete. For Wet or Dry Mixture.
For Heavy Concrete Construction.
For Sidewalk and Curb Work.
For Cement Blocks. For Cement Brick.

¶ It will mix the finest of sand and cement together, any moisture desired, from a mealy dry to a sloppy wet, **without balling.**

Do not fail to meet us at the Third Convention of the National Association of Cement Users which will be held in Chicago, Jan. 7-12, 1907, where we will have a complete exhibit of our product.

The R. Z. Snell Mfg. Company

SOUTH BEND - - INDIANA

Concrete Blocks

WE HAVE a very Beautiful Album containing over Sixty views of Houses, Churches, Factories, Plants, etc., taken from different parts of the country. These are printed on heavy enameled paper with original halftones, and these halftones are made from original photographs—not wash drawings. Size 9 x 12 inches.

PRICE, ONE DOLLAR

If unsatisfactory, money promptly and cheerfully refunded. **Write for Machine Catalogue—FREE.**

HARMON S. PALMER COMPANY

1450 Girard Street : : Washington, D. C.

ON THE SQUARE

Thousands have my works. Have U?

STEEL SQUARE POCKET BOOK, second edition, 159 pages, 150 cuts, cloth bound 50 cents.
FOLDER, third edition, 25 cents.
BOOKLET on DESIGNING, second edition, 30 cents, all for $1.00.

DWIGHT L. STODDARD

328 W. Raymond Street INDIANAPOLIS, IND.

PATENTS

C. L. PARKER

Attorney-at-Law and Solicitor of Patents

American and foreign patents secured promptly and with special regard to the legal protection of the invention.
Handbook for inventors sent upon request.

20 Dietz Building :: :: Washington, D. C.



Send us two or more names of persons who are interested in or want to buy Hot Water Heating Plants and we will send this scale. Back inches are divided into 6, 10, 12, 16, 20 and 40 parts. Also free catalog on request. See our two-page ad in American Carpenter and Builder for January, 1907.

Antihydrine

DAMP PROOF AND STAIN PROOF COATING

Only and Original Material for Making Walls Damp Proof and Stain Proof.

Address ANTIHYDRINE CO., NEW HAVEN, CONN.



Building, Buying, Repairing a House?

ON THE ROOF HANGS THE LIFE OF YOUR BUILDING

Every tin man admits it must be "protected" with paint on both sides. All the patent roof (tar, gravel, asphalt, flint, etc.) people recommend their own "protective" paint or coating every eighteen months or so. Only weakness needs protection. Could they admit more clearly the weakness of their roofing?

Save money, avoid troubles, annoyance, damage. Get a STRONG ROOF.

GENUINE BANGOR SLATE ROOFS

OUTLIVE THE BUILDING WITHOUT PAINT OR REPAIRS

Can you ask more of a roof? Can you say more?

Our Free Roof Book Tells

- What the Tin people say about Tin Roofs.
- " Tile " " Tile "
- " Shingle " " Shingle "
- " Patent " " Patent "
- (tar, gravel, asphalt, flint, etc.)
- What the Slate people say about Slate Roofs.

All the Facts about all the Roofs conveniently arranged for the man who pays the bills.

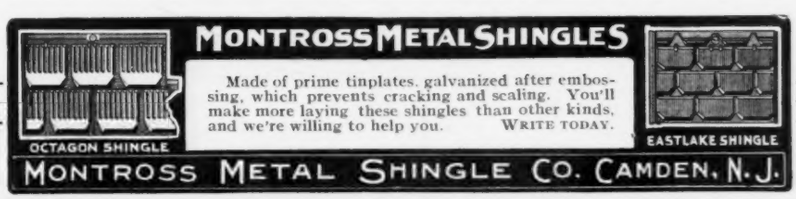
Write for it now.



GENUINE BANGOR SLATE CO.

ACORN BLDG., EASTON, PA.









Columbia Mineral Wool Company

Standard Mineral Wool makes buildings fire, sound and vermin proof. Send for circulars and samples--free

OFFICES: 918 Opera House Bldg., 112 Clark Street, Chicago, Ill.

CORTRIGHT METAL SHINGLES



TELL that to the man whose order you are trying to secure. Mr. Carpenter, tell him further that CORTRIGHT SHINGLES NEVER NEED REPAIRS OF ANY KIND, and you won't need much more argument to secure the order, and land the money for laying the roof in your pocket.

CORTRIGHT METAL ROOFING CO.
PHILADELPHIA CHICAGO

Practical Art Metal Ceilings



Quickly and easily applied. We are the only manufacturers who cut the beads in the dies after casting. RESULT—Square and accurate plates—which will save you time and labor in cost of erection.

Send for Catalogue No.2, which shows 200 new and original designs.

MANUFACTURED BY
Wm. Foster & Sons Co., Inc.
Springfield, Illinois

Also manufacturers of Radiator Shields, Fire Proof Window Frames and Sash, Gal. Iron Fronts, Hip Shingles, Cornice, Skylights.

DON'T DELAY!
BUT ORDER THE
ART GLASS
FOR YOUR HOUSES NOW

Get our Catalog and let us talk it over with you. We are manufacturers and can give you just what you want at almost any old price.

SCHULER & MUELLER
No. 16-18-20 W. Madison St., Chicago, Ill.

Oolitic (Bedford) Limestone

THREE QUARRIES TWO MILLS

SAWED, PLANED, TURNED, DRESSED, READY TO LAY. ANY SIZE OR QUANTITY :: :: :: :: ESTIMATES ON PLANS

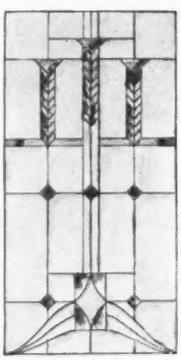
ROMONA OOLITIC STONE COMPANY
General Office, 41 E. Washington Street
INDIANAPOLIS, IND.

MANUFACTURER OF
ROOFING SLATE



Blackboards, Steps, Platforms, Hearths, Countertops, Floor Tiling, Table Tops, Grave Vault, Electric Switch Boards, Urinal Stalls, Billiard Boxes, etc.

O. A. Miller Slate Co.
Slatington, Pa.



Art Leaded Glass

Makers of Memorial Figures and plain Decorative Windows, also residence work in L'Art Nouveau styles and beveled plate in metal copper finish. Designs submitted on application. *Grand Prize Louisiana Exposition.* Correspondence solicited. Established in 1883.

The FLANAGAN & BIEDENWEG COMPANY
57 to 63 Illinois St. CHICAGO, ILL.
(Near Franklin)
Telephone North 218.

THE large number of satisfied users of our . . . . . .
ROOFING SLATE
is indicative of the superiority of our brand. **Structural Slate** of all kinds is also among our leading products. We always make prompt shipments. Write for delivered prices.

BANGOR SLATE MINING COMPANY
BANGOR, :: :: :: :: PENNSYLVANIA



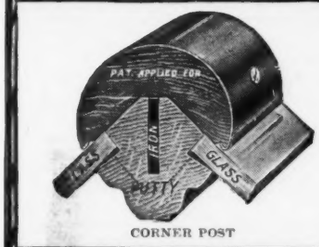
Ornamental Hip Shingles and Acme Ridge Tile

Our Catalog No. D-7 shows a complete line of Sheet Metal Work for buildings.
(Our prices on SKYLIGHTS are the best.)
CORNICES, SPECIAL GUTTERS, ETC.
Send us your plans for estimates on special work



MESSENGER & PARKS -:- -:- AURORA, ILL.

PETZ' Patent Store Front Construction



CORNER POST

Saves time and money in glazing. Glass can be set from the outside and broken glass removed and reset without disturbing window display or removing the window enclosure. Lets in every ray of light and gives every inch for display.

Highest endorsement by Plate Glass Insurance Companies. Exactly what the progressive merchant wants. Made in all finishes. And we ship ready for installing when so ordered. Get in touch with it at once. Send for the

New Book on Metal Store Front Construction Free.

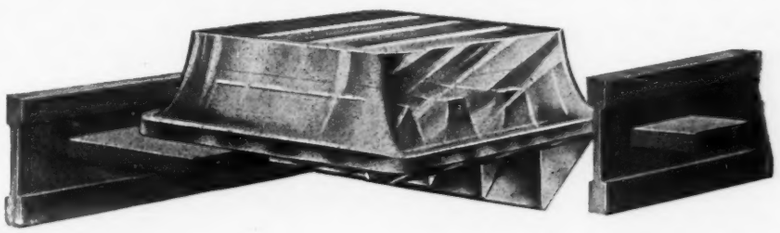
Gives interesting facts and full size illustrations.

Write today. **Detroit Show Case Co.**
491 West Fort Street.



TRANSOM BAR

Detroit Showcase Co — Detroit Mich.



100% More Light

in dark interiors by the use of

3-Way Prisms

Catalogue on request

Prism Glass of All Kinds

Vault Lights, Window Lights, Skylights, Wired Prisms

See pages 522-23-24-25 in Sweet's Index, at all Architects' and Builders' offices

American 3-Way Prism Company

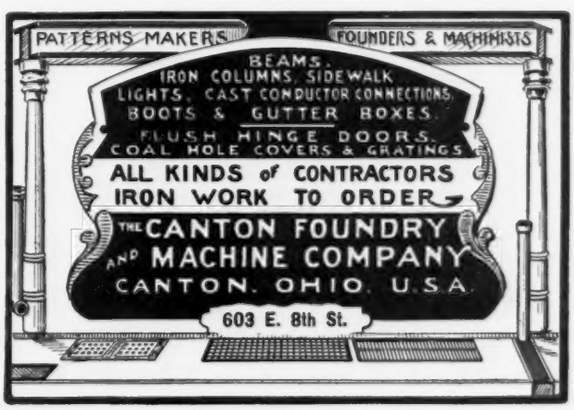
134 North 10th Ave. Philadelphia

NATIONAL

Structural Slate

Having increased our milling capacity threefold we are prepared to make prompt shipments of all kinds of Structural Slate. Let us figure on that next order. Write or wire us.

The National Slate Vault Co.
Bangor - - - - - - - Penna.



$ SUCCESSFUL DRAFTSMEN $



Drawing $125 to $250 monthly require more than Schoolroom Knowledge.

As Chief Draftsman of Eng'g firm I know exactly the Quality and Quantity of experience and practical training you must have, and will prepare you in a few months' home instructions for **above paying positions,** which I **furnish free anywhere.**

Complete Highest Grade **Drawing Outfit,** everything included, with **German Silver Set of Tools, value $13.85, FREE** next ten days.

Address, CHIEF DRAFTSMAN, Div. 17, ENG'S EQUIPMENT CO. Inc. Chicago.

Weber's New Economic Architects and Builders

LEVEL



Is a novelty in the line of levels that will attract much attention among the profession. It combines simplicity, accuracy and compactness, at a price within the reach of every one needing such instruments. Level complete, in neat box, with tripod and level rod, $25.00.

Large assortment of filing cabinets, drawing tables, blue print and drawing papers and supplies.

Sole Agents for Riefler's Round System Drawing Instruments.

Drawing Tables, T Squares, Triangles, Drawing and Tracing Papers, Tracing Cloth, Blue Print, and Blue Line and Black Print Papers. Large assortment of School Supplies.

SEND FOR CATALOG 263

BRANCHES { BALTIMORE ST. LOUIS **F. WEBER & CO., Philadelphia, Pa.**



Our New Framing Square No. 100-A

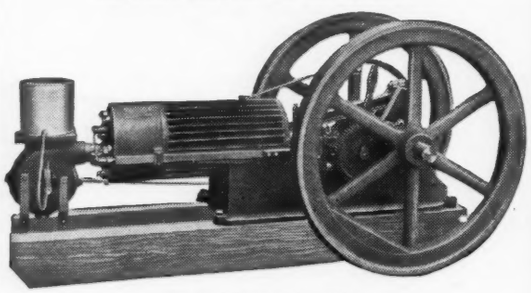
Has an Octagon Rule for Framing Octagon Roofs. It is found on back of body of square, and on face of body of square is our COMMON FRAMING RULE. Have you seen one? If not you ought to. Go to your hardware dealer and ask him to show you one, and if he hasn't one write us and we will send particulars.

NICHOLLS MANUFACTURING CO. :: Ottumwa, Iowa

The WATERLOO

Vapor Cooled Gasoline Engine

The only horizontal vapor cooled Gasoline Engine in the World.



Patented May 15, 1906.

Absolutely frost proof and cannot freeze. Remember! Not an air cooled, but a Vapor Cooled Engine. Our free illustrated catalogue will tell you all.

WATERLOO GASOLINE ENGINE CO.

175 Third Ave. West. Waterloo, Iowa

STAR EXPANSION BOLT SCREW ANCHOR



Made of Iron



Made of Lead Composition

E. Z. ?

Place the Expansion Shield in the hole, put the Screw through the material or article to be attached, then into the Expansion and fasten tight.

We will send prices, samples and catalog upon request.

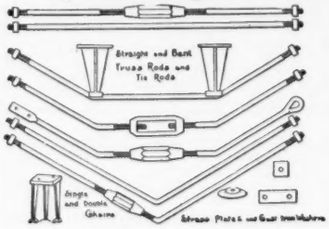
STAR EXPANSION BOLT COMPANY,
Cor. Cedar and Washington Sts., New York City

Telephone Connections **John W. Crooks Treasurer**

ARCHITECTS! CONTRACTORS! BUILDERS!

When you want any STRUCTURAL WORK it will pay you to write to the

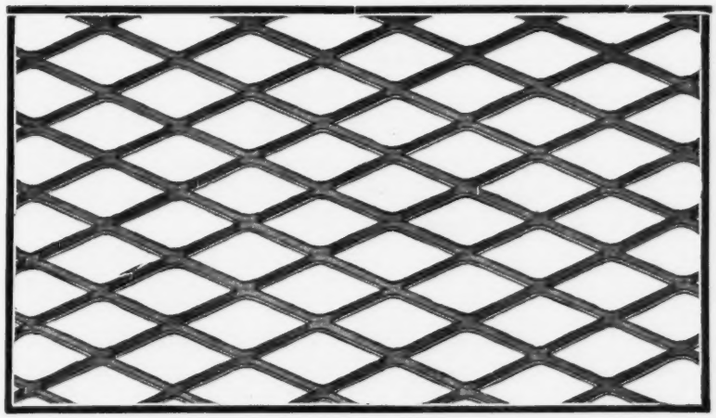
ESTABLISHED 1872
BOSTON BOLT COMPANY
INCORPORATED 1904



Convertors of Iron and Steel into Bolts, Expansion Bolts, Nuts and all kinds of Structural Work for Mills, Churches, Halls, Factories, Bridges, Wharves, etc., and Iron Work of all kinds forged and made to order.

DEALERS IN HEAVY HARDWARE and CONTRACTORS' SUPPLIES

Farnsworth Street, 44 Boston, Mass.



Northwestern Expanded Metal Company

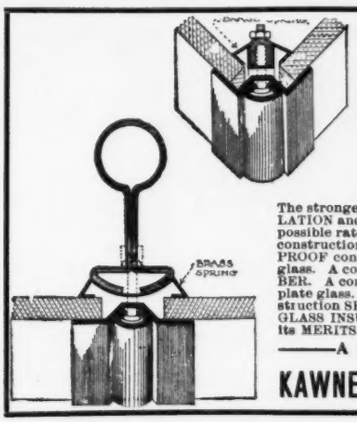
D. D.

EXPANDED STEEL PLASTERING LATH

No. 27 Gauge, Weight per Square Yard 2¼ Lbs.
No. 26 " " " " " 2½ "
No. 24 " " " " " 3 Lbs. 6 Oz.

Sheets—18 Inches by 97 Inches—9 Sheets to Bdl.

Telephone Harrison 799
945 Old Colony Building :: CHICAGO

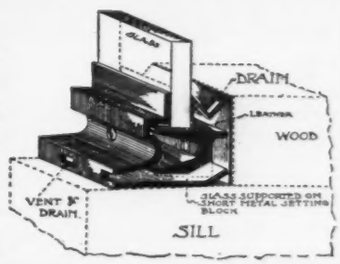


"KAWNEER" IMPROVED ALL-METAL STORE FRONT CONSTRUCTION

Solves all Store Front Problems

WITH the "KAWNEER" YOU GET:

The strongest and most practical construction on the market. Perfect VENTILATION and DRAINAGE. FROSTLESS and SWEATLESS windows. The LOWEST possible rate of INSURANCE. The GREATEST GLASS WIDTH possible with good construction. An absolutely FIREPROOF, RAINPROOF, RUSTPROOF and ROTPROOF construction. A construction that will hold securely the largest light of glass. A construction which requires no PAINT, PUTTY, FELT, CORK or RUBBER. A construction that eliminates all BEVELING, GRINDING or BORING of plate glass. A PERFECT SETTING for both PLATE and PRISM glass. A construction SPECIFIED by all the leading ARCHITECTS; APPROVED by the PLATE GLASS INSURANCE COMPANIES and DEMANDED by ALL who have learned of its MERITS.



——A REQUEST WILL BRING CATALOG AND PRICES——

KAWNEER MFG. CO. Main Office and Factory **NILES, MICH.**

SYKES TWO BEST LATHS IN THE WORLD



METAL LATH & ROOFING CO. NILES, OHIO. U. S. A.

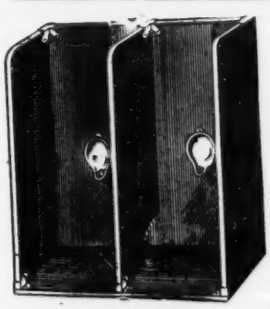
Rain proof Durable **Shingles that last** Rust Proof Ornamental

The National Sheet Metal Roofing Co.

WALTERS' SHINGLES — Jersey City N. J. — WALTERS' TILES

Write for Catalogue, Samples and Prices

ROOFING, GENUINE BANGOR BLACKBOARDS & STRUCTURAL SLATE



ALL ORDERS FILLED PROMPTLY.

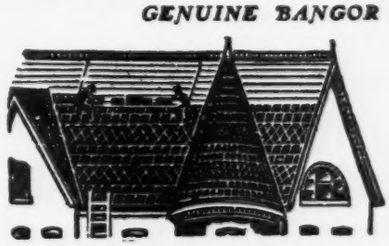
Order direct from the miners and manufacturers

HEADQUARTERS FOR SLATE BURIAL VAULTS, CATACOMBS, ETC.

THE BANGOR STRUCTURAL SLATE CO.
LOCK BOX 48 BANGOR, PA.

SLATE SLATE

GENUINE BANGOR



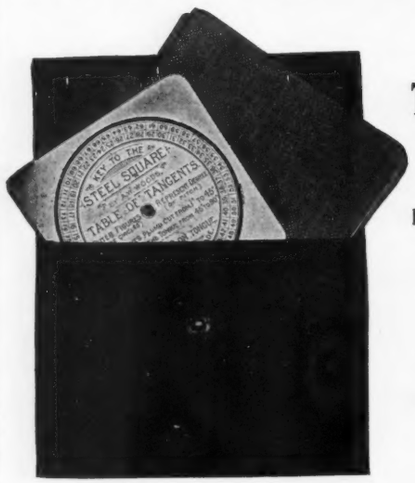
Roofing
Blackboards
Structural

Write us before ordering elsewhere.

The Bangor Slate Co.

Miners and Mfgrs. BANGOR, PA.

ALFRED W. WOODS' KEY TO THE STEEL SQUARE.



This is it.

The Key, Book of Instruction and Morocco Case.

Full Size 4x5 inches.

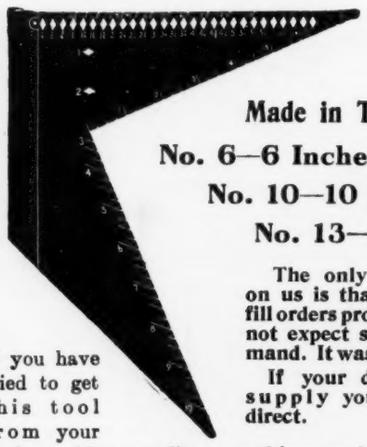
It tells the whole story of how to use the common steel square for all kinds of framing.

American Carpenter and Builder

185 Jackson Boulevard, CHICAGO

The New Universal Square

Is proving itself sure to become the standard tool of its kind



Made in Three Sizes:

No. 6—6 Inches

No. 10—10 Inches

No. 13—13 Inches

The only kick coming on us is that we did not fill orders promptly. We did not expect so heavy a demand. It was not our fault.

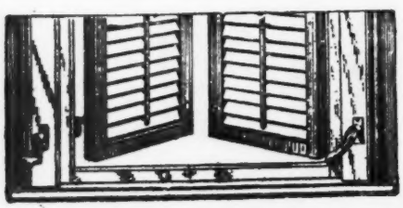
If your dealer can't supply you now, write direct.

If you have tried to get this tool from your dealer and become discouraged because he was one who could not get his order for them, we advise you that this condition has been overcome by our building a large country factory, where they are made by the thousand, and every order is shipped promptly. So try, try again.

DUBY & SHINN MFG. CO., Inc.

Home Office and Works, LONG BRANCH, N. J., Branchport Station

MALLORY'S



Standard Shutter Worker

New and improved patterns and designs.

Opens and closes the blinds without raising the window.
Automatically locks the blinds in any position desired.
Made of gray and malleable iron. The best and most durable blind hinge. Incomparable for strength, durability and power. Can be applied to old or new houses of brick, stone or frame. *Send for Illustrated Circular.* If your hardware dealer does not keep them, send direct to

FLEMINGTON, NEW JERSEY.

BURLINGTON



Venetian Blind for inside window and outdoor veranda. Any wood; any finish to match trim.

Venetian and Sliding BLINDS Screens and Screen Doors

Satisfied customers and years of actual use have proven the merit of our goods. For your own best interests, and your customers, send for our catalogue-booklet, price list and proposition to you.



Sliding Blinds for inside use. Require no pockets. Any wood; any finish.

BURLINGTON VENETIAN BLIND COMPANY

950 Lake Street, Burlington, Vermont



PHOENIX SLIDING BLIND CO.

Phoenix, N. Y.
Department "C"

HIGH GRADE VENEERED DOORS

American Carpenters and Builders Say of "Gossett" Hinges for Window Screens:

NORTH.	Illinois. "They are the best I have ever seen for the purpose. Those that got them last year think they are fine."
SOUTH.	Alabama. "Of all the hangers I have seen I like yours the best."
EAST.	Pennsylvania. "My customers last year were delighted with them."
WEST.	Arizona. "The best we have ever used. Unusually adapted to the needs of this country where screens are left on houses the entire year, as they can easily be removed to wash the windows.

(Names and addresses furnished on request.)

If Gossett Hinges pleased their customers, won't they please yours? Send for free sample pair for actual test—there's nothing so convincing. Sold by hardware dealers. Price per dozen pairs, $1.20, express prepaid.

Six Years of Growing Sales Prove Their Worth

F. D. KEES MFG. CO., Box 522, BEATRICE, NEB.

GLACIER

A PERFECT SUBSTITUTE FOR STAINED GLASS



It is used in Churches, Homes, High Class Apartments, Hotels, Stores, Etc.

Guaranteed not to fade, does not transmit color, can be mopped with cold water without the slightest injury. In GLACIER, beautiful figured windows can be had at a mere fraction of their cost in Stained Glass.

...New Illustrated Booklet Sent Free on Application...

GEO. QUAILE, 147 Columbus Av., New York

IF YOU ARE

BUILDING

for your own use, for investment or for sale, you can get the best effect in interior decoration combined with durability and economy by using

Northrop's Stamped Steel Ceilings and Walls

Fire proof, water proof, dust proof, damp proof and vermin proof. They never crack nor wear out. Light in weight; stamped with clean sharp outlines of correct designs from Bessemer sheet steel. Made in many decorative patterns. Can be put up by any good mechanic and painted to harmonize with their surroundings. Also manufacture

NO-CO-DO STEEL TILING

Catalog and booklet on request.

Northrop Coburn & Dodge Co.,

NoCoDo Steel Trade-Mark

47 Cherry Street NEW YORK

ADJUSTABLE PLATE GLASS TOWEL SHELF

WITH PLATE GLASS TOWEL BAR COMBINED



Nickel Plated Bronze Brackets and Screws

No. 6.—Shelf 24 inches long and 6 inches wide, price each **$4.00**

ADVANTAGES OF OUR FLAT GLASS TOWEL BARS ARE

The Towels never slip
Water, hot or cold, has no effect
Need no cleaning
Never wear out or show use
All edges are ground and polished
They are entirely antiseptic

OUR TOWEL SHELVES

Are so made that there are no holes required in the glass, thereby reducing breakage to a minimum. All shelves made so glass cannot fall out, but are adjustable.

Geo. M. Anderson & Co.

MANUFACTURERS OF MIRRORS BEVELERS AND POLISHERS OF PLATE GLASS

Send for Complete Catalogue

281 to 291 West Superior St.

CHICAGO

DO YOU USE GLASS IN YOUR BUILDINGS?

IF SO, LET US

Show You How!

BY DEALING DIRECT With the Designers and Makers

Art Glass

Sand Blast and Chipped

Window and Plate Glass

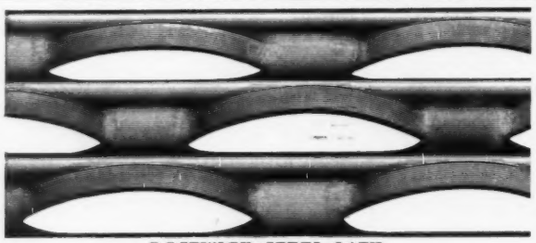
Write Today for Catalog

Most Artistic Ever Issued

Suess Ornamental Glass Co.

Throop and 21st Sts.

Dept. C. CHICAGO



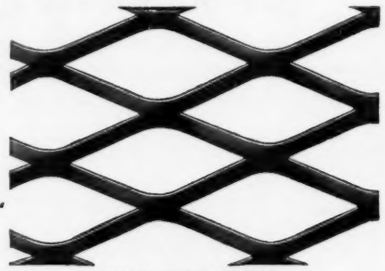
BOSTWICK STEEL LATH

Specified by Leading Architects—Used by Leading Contractors—Endorsed by Busiest Plasterers, because it saves 25 per cent of Plaster and gives Greatest Satisfaction. A trial will prove our every statement. Let us show you.

OUR EXPANDED METAL

Made in various gauges. Satisfies the most exacting requirements in every branch of plastic construction.

LOOK THIS UP
LET US MAIL YOU
A SAMPLE



EXPANDED METAL

Manufactured only by :: :: THE BOSTWICK STEEL LATH CO. :: :: Niles, Ohio, U. S. A.

UNSIGHTLY COAL WINDOWS
ARE EYESORES



Pat. Oct. 16, 1906

The Majestic Coal Chute

A sure cure for Smashed Sash, Broken Glass, Splintered Siding, and Soiled Foundation.

No. 1.
19x15 $8.00
No. 2.
24x15 $10.00
No. 3.
30x20 $15.00

Freight allowed to points east of the Mississippi River.

Made of heavy wrought steel, and has an adjustable hopper, which swings into the chute, allowing the door to close flush with the wall. Also has a self-locking device for holding door open and for locking when closed. Can be placed in old walls as well as new. **Write for Catalogue.**

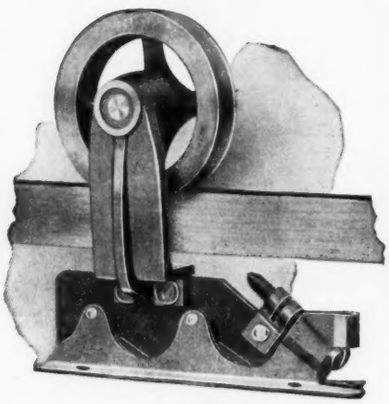
THE CHAPPELL FURNACE COMPANY
MORENCI, MICH.

A SAMPLE OF THE

WILCOX-PROUTY House Door Hangers

FREE

Note the Conditions!



Note the Conditions!

No. 106

If the dealer hasn't them and you are a DEALER, we will furnish a sample free of charge.

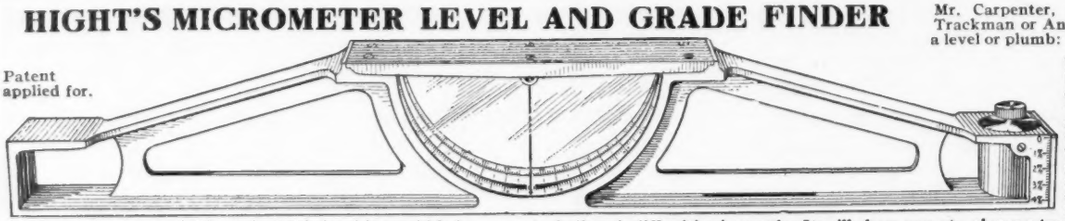
WILCOX MFG. CO.

Only one of 300 Specialties

AURORA, ILL. Dept A

HIGHT'S MICROMETER LEVEL AND GRADE FINDER

Patent applied for.

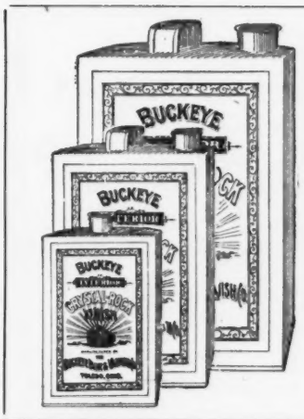


Mr. Carpenter, Steamfitter, Trackman or Anybody using a level or plumb:

How often have you been situated so that it was necessary for you to ascertain the exact grade of some work in degrees or rise in inches per foot or in per cent? If you had this level it would help you out of all such difficulties instantly. It will show you at a glance a true level, true plumb, or any inclination in degrees, in inches per foot or per cent., and will establish all quicker and more accurately than you can establish a true level with the best spirit level you can buy. With the use of a bevel you can readily get the angle to set the bevel to cut any degree desired by setting the level so that the diaphragm sets on the degree desired and setting the bevel to the diaphragm, and you can use your steel square to get the right angle. You can set it on a track and it will show you the grade instantly in degrees or per cent. or in inches rise per ft.

Made of aluminum it weighs two and three-quarter pounds and of mahogany three pounds. There is nothing about it that can get out of order or become untrue. When you see one of these levels, you will wonder how you have managed so long to get along without it. In aluminum it sells for $8.00 and in mahogany for $5.50, and many times in a year will save you many times its cost in time, work and worry. It will be sold only by myself or my son for the present until the hardware trade demands it, and upon receipt of enough to guarantee express charges, I will send it to you C. O. D., subject to your inspection.

A. W. HIGHT, Toledo, Ohio, JOHN R. HIGHT, Ballard, Washington



TRY OUR

Crystal-Rock Finish

BEST INTERIOR AND EXTERIOR VARNISHES ON THE MARKET TO-DAY

Recommended by First-Class Architects.

MANUFACTURED BY

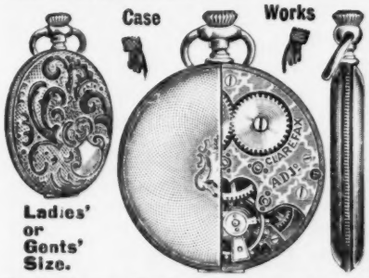
Buckeye Paint & Varnish Co.,

TOLEDO, OHIO.

GUARANTEED WATCH 540

Finely Jeweled Movement For

Regular Wholesale Price, $12.



This **Clarefax** watch is a thin model, stem wind and stem set, well made, beautifully jeweled movement and finely balanced with patent regulator, dust band, enameled dial and fancy hands. Every **Clarefax** watch is accurately timed, tested and regulated before leaving the factory and guaranteed absolutely for **20 Years.** The case of the watch is a double hunting case, genuine gold laid and handsomely engraved.

This **Clarefax** watch for **$5.40** is the best watch ever sold for less than $12, and thousands of people have paid from $15 to $20 for watches not nearly so good. We are able to sell it for **$5.40** only because the manufacturers had to raise money in a hurry and sold us the entire output of their factory at less than cost of production.

Do not send money with order, but send us your name, postoffice and nearest express office. Tell us whether you want a **ladies' or gents' Clarefax** watch, and we will send the watch to your express office, where you may examine it before paying any money, and after you are positive as to its value, pay the express agent **$5.40** and express charges.

If the watch does not please you after you examine it, have the agent return it at our expense.

Guarantee Watch Co., Dept. 113 **Chicago, Ill.**

A MOISTURE-PROOF CONCRETE HOUSE WALL

The **No Touch System** Patent Concrete Wall, Little & Gavett, Ithaca, N. Y., which was exhibited by drawings only at the Cement Users' Convention, and was a center of attraction throughout the entire week, is being brought before our readers this month.

The inventors have realized the fact that it is not so much moisture coming through the wall that does damage on the inner surface, but moisture from the room that condenses wherever the inner surface is cooled off by connections with a cold exterior. The No Touch System does away with any lapping over of inner with outer blocks, and with all metallic ties. There is a complete air blanket in all directions uninterrupted except at doors, windows and floors, this insuring a house cool in summer, warm in winter; with no chance for moisture to either come through the walls or condense on the interior. Those wishing State, County or City rights, address

LITTLE & GAVETT, ITHACA, N. Y.
508 University Avenue

The Self-Setting Planes on Trial

ONLY SELF-SETTING PLANE MADE.
HAS AN ADJUSTABLE IRON THROAT.
Sets Instantly with Minute Accuracy.
EVERY BIT WARRANTED TO STAND TO USER'S SATISFACTION.
THE BEST IS THE CHEAPEST.

None Cheap but the Best.
All Want the Best.
Sent on 30 Days' Trial as per Circular, if Dealers do not keep it.



SECTIONAL VIEW—showing ADJUSTABLE IRON THROAT.

LARGER VIEWS IN BACK NUMBERS

It will not cost you a cent to use the Self-Setting Plane a Month if you return it at our expense.

We deliver it to you all express paid.

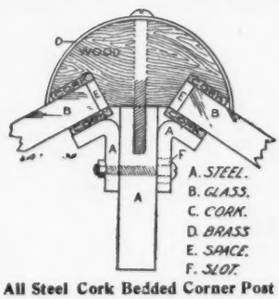
This paper, The American Carpenter and Builder, guarantees we will do as our advertisements say, so if our planes are not sold in your town, send us $3.00 and if within a month you want your money back, return the plane within 30 days of receipt as sent at our expense, and we will return your money at once.

Look Here! Get your back numbers of **The American Carpenter and Builder,** and read what is said in last January number on pages 1202 and 1211; February, pages 1255 and 1340; March, page 1464; then send for a Self-Setting Plane as above.

If you prefer to write we will be glad to answer any questions, but the best way is to try a Plane on your own bench in your own way, then send it back if you want to. In writing us, say saw "ad" in A. C. and B.

Yours, for the only Self-Setting Plane made,

GAGE TOOL COMPANY
VINELAND, N. J.



All Steel Cork Bedded Corner Post

SHULTZ'S

Patent All Steel, Cork Bedded Corner Posts, Mullions and Transom Bars.

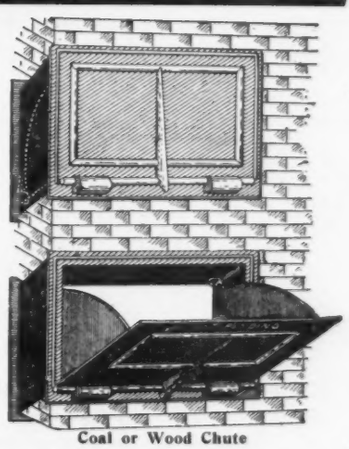
Also my new Acme Steel Post and Bars, in which the Glass is Bedded Between Wood.

They are the handsomest and strongest bars made. The glass is bedded on both sides, either between Spanish cork or wood, preventing any cracking or crushing of glass. No putty. Are absolutely water and dust proof.

BURGLAR PROOF COAL CHUTE. Locks itself automatically when closed up. Can only be opened from inside. Face of Chute flush with wall. Write

C. H. SHULTZ, Patentee and Manufacturer **St. Joseph, Mo.**

For Cut and Prices on Corner Posts and Coal Chutes.



Coal or Wood Chute

DIRECT FROM MILLS TO YOU
WE PAY THE FREIGHT



Doing the Job Right

You will make more money on that job if you use **Beacon-ite Long Life Roofing**, because you will save two profits—the dealer's and the salesman's—by buying direct from the mills.

It's worth something to please the man you're working for, too. Don't you think so? You will do that because you give him a better roofing for less money than he could get at his dealer's.

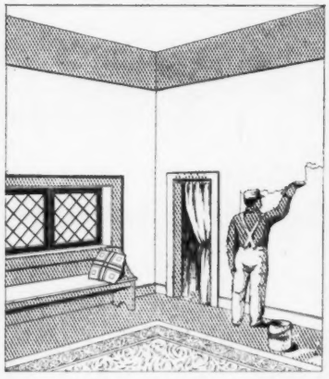
Beacon-ite is made of a long wool fibre thoroughly saturated with a solution that makes it absolutely water tight. **Beacon-ite** costs about half as much as tin or shingles and will outlast either many years.

Beacon-ite Long Life Roofing will never rot, rust or leak.

We have a very interesting proposition to make to all carpenters and builders. Send us your name and address on a postal card and we will send you the particulars. It's a money-maker for you.

BEACON-ITE MILLS
Dept. 24, ST. LOUIS, MO.

The Only Guaranteed
PURE LEAD PAINT
Sold Direct From
Factory to Consumer



Save 25 Per Cent by buying direct. We guarantee every gallon for a period of six years.

A color card of forty beautiful shades sent on application.

Also sole manufacturers of the celebrated **Egyptian Roof Paint.** Unexcelled for roofs, bridges, stacks, boiler fronts and metal of every description. A positive guarantee to protect metal for ten years. An agent wanted in every city.

Send for sample of our **Fiberoid Floor Covering.** One-third to one-half the cost of Linoleum. Wears twice as long. An old and rough floor is instantly transformed into a smooth, marble-surfaced one and it never wears out. (Write for factory prices.)

THE COLUMBUS PAINT CO.
GROFF BROS., Props.
Established in 1876. **COLUMBUS, O.**

AD-EL-ITE
One-Coat Dull Finish

The Original Mission Finish

Brings out and emphasizes the natural beauty and grain of all kinds of wood and produces those soft, rich tones of the old Spanish Missions

Very popular for finishing Halls, Libraries, Dining Rooms, Dens or any room where a subdued effect is desired.

Ad-el-ite One-Coat Dull Finish is more economical to use than varnish stains or finishes, as it will cover twice as much surface, will not mar, scratch or wear off, and will last as long as the wood itself.

Used in the Chas. M. Schwab $5,000,000 residence, and many other fine residences all over the United States.

Write for our booklets of Fillers and Stains and Mission Finishes. Real wood panels showing thirty-one shades of finish. FREE FOR THE ASKING.

Station A Adams & Elting Co **Chicago, Ill.**

Morgan's Elastic Paints and Coatines Are The Best



As they are not affected by Climatic Changes, Gases or Sulphurous Fumes.

Absolutely Waterproof

We use no Lead, and grind in and **make our own Vehicle,** which absolutely prevents Corrosion.
Paints for Metals, Wood, etc.

Coatine for All Waterproofing

Use them everywhere. Write us, we can prove our claims.

H. B. Morgan Co., Grand Crossing **Chicago**

WANTED CARPENTERS AND BUILDERS

to take up Slate Roofing **in unoccupied territory** everywhere. Only a few, inexpensive tools needed. Slating easy to learn.

SEA GREEN AND PURPLE SLATE ROOFS

outlast any building. They won't wear out, rust or decay. Are fire-proof. Afford clean cistern water and don't require constant repairs and attention. A profitable, growing Slate Roofing business can be established anywhere. Besides new work, there are hundreds of wornout tin, shingle, metal and composition roofs to be replaced. The consumers are tired of paying good money for short-lived roofings. Furnish them with perfect and durable slate roofs.

Carpenters and Builders: This is a money-making proposition, it costs nothing to investigate. LOOK INTO IT. WRITE TO US AT ONCE.

American Sea Green Slate Company

Box 36, Granville, N. Y.

This proposition only applies to territories not now covered by a Slate Roofer.

Hardwood Flooring

Manufacturers of

PLAIN and PARQUETRY

SPECIALTIES

Tongued and Grooved and Hollow-backed Flooring 3-8", 1-2", 5-8", 7-8" thick.

CINCINNATI FLOOR CO.

227 W. 4th St., CINCINNATI



25 PER CENT REDUCTION SALE

Five Orders of Architecture

450 pages of text, 7x10 inches, 58 large detail plates 11x15 inches, in a handsome portfolio, illustrated with over 300 sections and details drawn to scale. Bound in red morocco.

The newest, simplest and most comprehensive treatise on the Greek and Roman orders yet published. Contains many full page photographs of the best examples of Greek and Roman Architecture: also a valuable list of definitions and pronunciations of the various architectural terms, and a list of all good books on the subject.

The work is an invaluable means for becoming acquainted with the details and the proportions of the Standard styles of Architecture and the "laying out" of columns, cornices, balustrades, and moulding in general. The work has been five years in preparation and contains many plates that have never been available except in the most expensive books.

FREE FOR FIVE DAY'S EXAMINATION

Regular price $16—Special price $12

On your request, if you mention this magazine, we will send you a set of the Five Orders of Architecture by express prepaid for five days' examination. If satisfactory, send us $2 within five days and $2 a month for five months. We will remove the books at our expense if you do not wish to keep them. Write now.

AMERICAN SCHOOL OF CORRESPONDENCE

CHICAGO **ILLINOIS**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN CARPENTER AND BUILDER

50% Saved



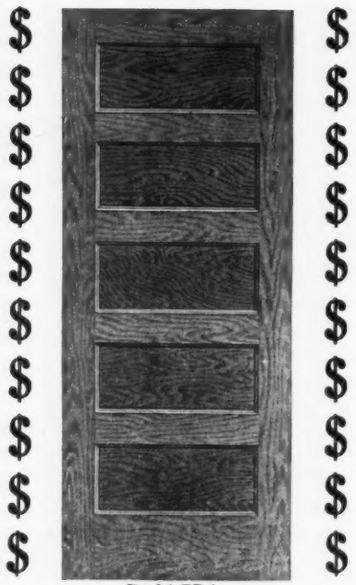
F.-M. 781

Oak Veneered Doors in Stock All Sizes



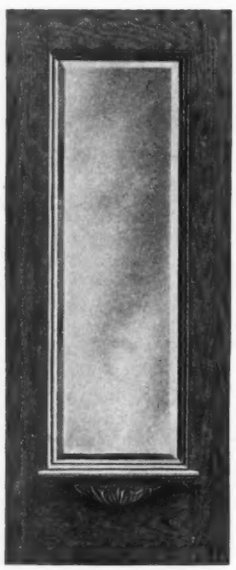
F.-M. 776

Oak Veneered Doors at Price of Common Doors



F.-M 774.

Shipment Made Same Day Order is Received



F.-M. 799

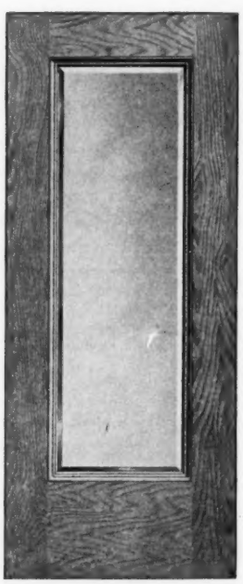
Made in Stock Quantities
Sold at Stock Prices
Carried in Stock

The Foster-Munger Co.

America's Greatest Sash and Door House

Chicago, U. S. A.

Write for Veneered Door Book 1448 Z



F.-M. 778

Gould Manufacturing Co.

MANUFACTURERS OF

LUMBER, SASH, DOORS AND BLINDS.

Bear in Mind

We send you no substitutes, such as Spruce and other cheap woods, instead of Pine.

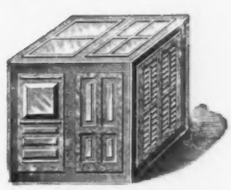
In buying of us direct you save Three Profits.

Being manufacturers instead of jobbers, you are assured the best make and quality of goods at all times.

Write for our New Front Door Book and Circular 99.

Gould Manufacturing Co.,

TENTH STREET **OSHKOSH, WIS.**



A Square Deal in Sash, Doors and Blinds

Contractors and Builders

Send in your business card or name and address and let us put your name on our mailing list.

Interesting literature and circular matter will be mailed to you from time to time as issued.

We can save you money on MILL WORK during the coming season.

DO IT NOW

George Green Lumber Company

Twenty-second and Grove Sts., Chicago, Illinois



ARCHITECTS USE

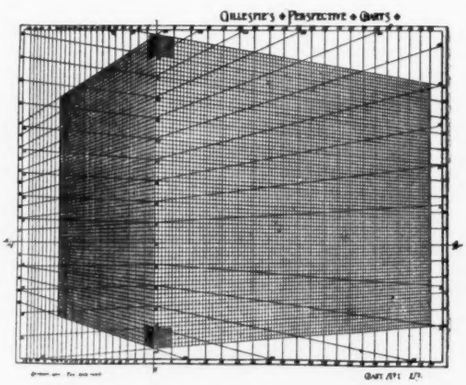
Gillespie's Perspective Charts

Five Different Pads, 50 Sheets each, 11x14 inches, $5.00 on Thin Paper in Pale Blue Ink.

Large Set and Five Different Pads, $10.00, Large Set in Handsome Armor Tube.

Write for Catalog

G. Curtis Gillespie
7 Warren St. New York



The "Zimmermann" Iron Base

FOR WOOD COLUMNS

"The Column Never Rots"
All Sizes for Round or Square Columns. Thousands in use. Send rfo Circular "Z"





C. E. ZIMMERMANN, : Syracuse, N. Y.

PLUMBERS' SUPPLIES

AT WHOLESALE



If you need anything in my line, and wish to

SAVE

20 to 40 Per Cent

on every article, write for my free illustrated Catalog. Shipments promptly made from a very complete stock of guaranteed goods.

Small orders are as carefully handled as large ones.

B. B. KAROL, 233 W. Harrison St., Chicago, Ill.

Chicago Embossed Moulding Co.

MANUFACTURERS OF
EMBOSSED MOULDINGS
GRILLE
AND
CABINET WORK

Send for New ILLUSTRATED CATALOGUE FREE

Embossed and Plain Mouldings

GRILLES OF EVERY DESCRIPTION

Embossed Mouldings



No. 189A. Size ⅜x½ inch.



No. 190A. Size ⅜x½ inch.



No. 188A. Size ⅜x⅞ inch.



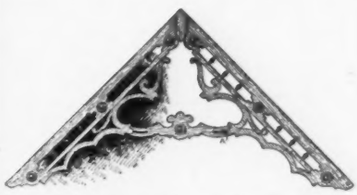
No. 187A. Size ⅞x1 inch.

BALUSTERS
STAIR WORK
BRACKETS
SPINDLES
COLUMNS
INTERIOR CAPS
MANTELS
GABLE ORNAMENTS
ETC.

We also manufacture EVERYTHING in the CABINET LINE

You can rely upon us for PROMPT SHIPMENTS

Adjustable Gable Ornaments



No. 20. Extends 5 feet down gable. Adjustable to any pitch.

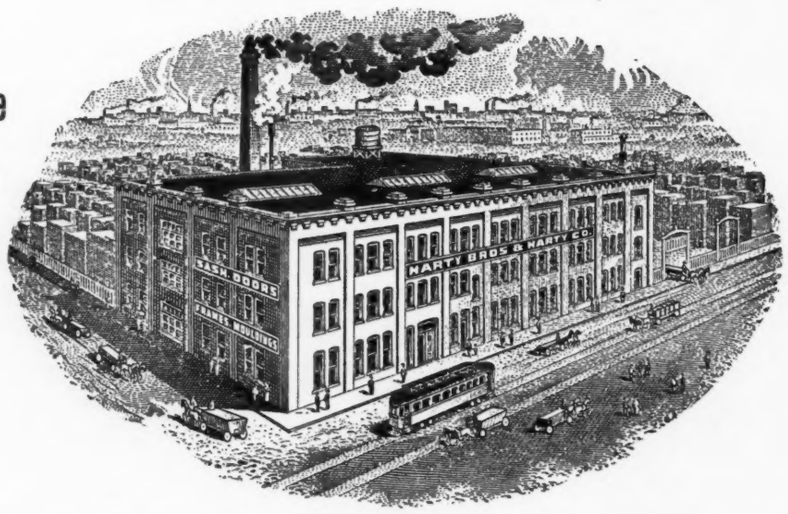


No. 16. Extends 6 feet down gable. Adjustable to any pitch.

Chicago Embossed Moulding Co.

598 AUSTIN AVENUE, CHICAGO

We Manufacture Everything In Millwork at Chicago



Send us your Lists for Estimate

We are prepared to quote extremely low prices consistent with high grade manufacture and solicit your business. We can make complete shipment of an ordinary house bill within one week.

Best Facilities in Chicago

HARTY BROTHERS & HARTY COMPANY

Twenty-first and Loomis St. - - Chicago

Northwestern Grille Works

Send for our catalogue, which contains a large number of attractive and modern designs of Grilles.

OFFICE AND FACTORY

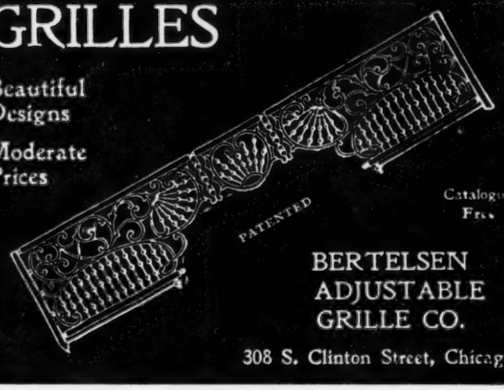
1452 Milwaukee Avenue, CHICAGO

CHRISTENSON BROS., Props.

GRILLES

Beautiful Designs

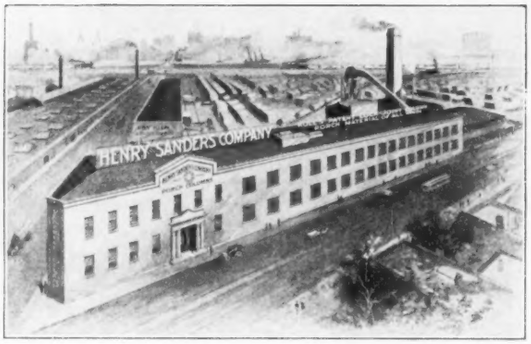
Moderate Prices



Catalogue Free

BERTELSEN ADJUSTABLE GRILLE CO.

308 S. Clinton Street, Chicago



BEAUTIFUL COLUMNS

Have you seen our illustrated catalog showing many beautiful homes and public buildings with

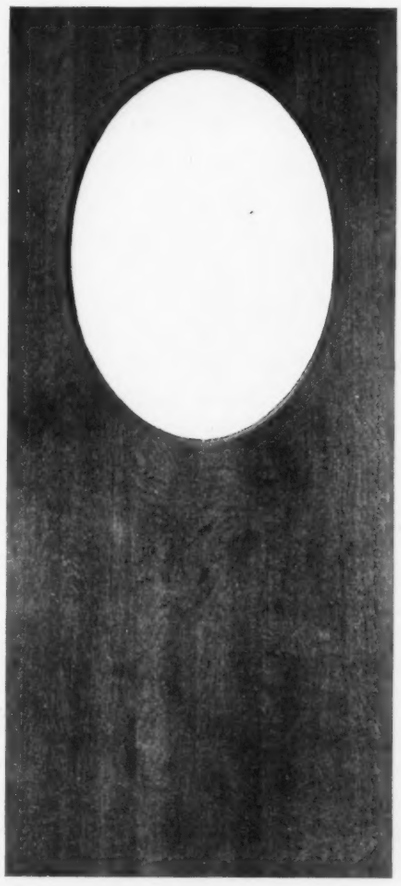
Koll's Patent Lock Joint Columns, Pilasters, etc.

These columns are perfect mechanically, architecturally, and will stand any kind of weather

Write us today for catalog and quotations

HENRY SANDERS CO.

Elston and Webster Aves. CHICAGO



Compound doors are specified by Leading Architects and used by Leading Contractors in many important buildings throughout the country.

Send us your lists for estimate.

Our Design Book free for the asking.

The Compound Door Co.
MANUFACTURERS OF
VENEERED HARDWOOD DOORS
STILES & RAILS.
ST. JOSEPH, MICH.

Our New Steel Square

Aside from excellence of material and workmanship, the greatest difference between the best **Carpenters' Steel Square** and the old iron square of the blacksmith, consists of the scales and markings on the improved tool. Our square, as recently improved, enables the carpenter to lay out all kinds of work and to calculate quantities with an ease and accuracy never before known.

Our Steel Square Book, describing the new tool, is a veritable

PRACTICAL TREATISE ON THE STEEL SQUARE

and we will send a copy, without charge, to anyone who in writing us will mention the American Carpenter and Builder

SARGENT & COMPANY

1149 Leonard Street NEW YORK

Bedford Stone

BUFF AND BLUE

Sawed, Planed, Turned
Cut Ready to Set

Estimates promptly made for stone delivered to any point. Plans sent for estimate, promptly returned.

Bedford Steam Stone Works
Bedford : : Indiana





JOIST HANGERS

For Concrete Blocks, Wood or Iron Beams.

Many Sizes in Stock.

Special Shapes to Order.

STEEL POST CAPS, WIRE FLOOR CLIPS,

STRAPS, BOLTS, PIN ANCHORS.

Telephone Main 987.

CHAS. MULVEY MFG. CO.
15 So. Jefferson Street. **CHICAGO.**

Four New Books

COPYRIGHT 1907

EDITED UNDER THE PERSONAL SUPERVISION OF

WILLIAM A. RADFORD

Editor in Chief of the AMERICAN CARPENTER AND BUILDER, Assisted by

ALFRED W. WOODS, the World's Greatest Expert on the Steel Square, and WILLIAM REUTHER, the Leading Authority on Carpentry, Joinery and Building

THE STEEL SQUARE AND ITS USES

TWO VOLUMES

A Complete Encyclopedia on the Practical Uses of the Steel Square

JUST PUBLISHED. This very valuable and practical work is published for the first time. It is up to the minute, being issued January 1, 1907. This splendid edition is a brand new book from cover to cover, written in simple, plain, every-day language so that it can be easily understood and followed. Information of value that has appeared in former works, appears in this work, together with a vast amount of new, practical, every-day information, such as is necessary for every progressive and successful carpenter to know.

THIS UP-TO-DATE AND PRACTICAL WORK on the application of the steel square, treats of the laying of the rafters, finding the lengths of jacks, securing bevels, laying out hopper bevels, treating of the steel square as a calculating machine, and showing how to measure solids, surfaces and distances

SPECIAL CHAPTERS are devoted to that part of stair building to which the steel square can be applied. Other chapters treat of heavy timber framing, showing how the square is used for laying out mortises, tenons, shoulders, etc.

PRACTICAL AND INSTRUCTIVE ILLUSTRATIONS to the number of more than 300 are scattered through this work. These illustrations are not technical mathematical designs, nor geometrical problems, but are the thoroughly practical illustrations of a thoroughly practical text, bringing to the attention of the carpenter such points of interest and information as he needs in his every-day business. While the text and descriptive matter are so accurate and easy of comprehension that they could be understood without even the assistance of the illustrations, nevertheless the book has been thoroughly and profusely illustrated with diagrams and drawings.

REMEMBER, this work is absolutely up to date (being issued January 1, 1907). Each volume measures 6x9 inches, and contains over 300 pages, being the largest books on the steel square ever published. They are bound in cloth with attractive cover designs, handsomely stamped. Printed on the best quality of paper. Each volume contains 50 modern house plans.

PRACTICAL CARPENTRY

TWO VOLUMES

A Complete Up-to-Date Explanation of Modern Carpentry

NEW SPECIAL EDITION. This work, "Practical Carpentry," is absolutely new, being completed only January 1, 1907. It is written in simple, plain, every-day language so that it can be easily understood. It will not bewilder the working man with long mathematical formulas or abstract theories.

IT IS THE MOST COMPLETE, most accurate, most up to date and most practical work upon this subject. It contains the best and quickest methods for laying roofs, rafters, stairs, floors, hopper bevels, mitering, coping, splayed work, circular work, and in fact, for forming all kinds of joinery and carpenter work.

SPECIAL CHAPTERS are devoted to building construction, which takes the carpenter from foundation to roof, with complete illustrations of each detail, such as foundation, windows, cornices, doors, roofs, porch work, etc. There are also special chapters devoted to good and faulty construction and all kinds of framing.

400 SPECIAL ILLUSTRATIONS. There are over 400 illustrations, many of them cover an entire page, and they illustrate completely and instructively the text. They show the detail and actual construction down to the minutest point. They enable the reader to understand the text easily and to follow the work in hand without difficulty.

REMEMBER, this work is the latest one published on this extensive subject, (issued January 1, 1907). Each volume measures 6x9 inches, and is bound in cloth with cover design attractively stamped. Contains more than 300 pages in each volume. Printed on an excellent quality of paper. Each volume contains 50 modern house plans.

PRICE (Per Volume) $1.00

The Steel Square and Its Uses, Vol. I $1.00 **Practical Carpentry, Vol. I $1.00**
The Steel Square and Its Uses, Vol. II 1.00 **Practical Carpentry, Vol. II 1.00**

American Carpenter and Builder

BOOK DEPARTMENT

185 Jackson Boulevard, Chicago

Special Combination Offers

Every one is a bargain. Send today, as offers will be withdrawn after next month. Do not delay.

	Regular Price
No. 1—American Carpenter and Builder	$2.00
The Cement World (Introductory Price)	.50
	$2.50

COMBINATION OFFER—BOTH FOR $2.00

No. 2—American Carpenter and Builder	$2.00
"The Steel Square and Its Uses," Vol. 1 (New)	1.00
	$3.00

COMBINATION OFFER—BOTH FOR $2.50

No. 3—American Carpenter and Builder	$2.00
"The Steel Square and Its Uses," Vol. 1 (New)	1.00
"The Steel Square and Its Uses," Vol. 2 (New)	1.00
	$4.00

COMBINATION OFFER—ALL THREE FOR $3.25

No. 4—American Carpenter and Builder	$2.00
"Practical Carpentry," Vol. 1 (New)	1.00
	$3.00

COMBINATION OFFER—BOTH FOR $2.50

No. 5—American Carpenter and Builder	$2.00
"Practical Carpentry," Vol. 1 (New)	1.00
"Practical Carpentry," Vol. 2 (New)	1.00
	$4.00

COMBINATION OFFER—ALL THREE FOR $3.25

No. 6—American Carpenter and Builder	$2.00
Radford's "Practical Barn Plans" (New)	1.00
	$3.00

COMBINATION OFFER—BOTH FOR $2.50

No. 7—American Carpenter and Builder	$2.00
Radford's "Ideal Homes"	1.00
	$3.00

COMBINATION OFFER—BOTH FOR $2.50

No. 8—American Carpenter and Builder	$2.00
Radford's "American Homes"	1.00
	$3.00

COMBINATION OFFER—BOTH FOR $2.50

No. 9—American Carpenter and Builder	$2.00
Radford's "Ideal Homes"	1.00
Radford's "American Homes"	1.00
	$4.00

COMBINATION OFFER—ALL THREE FOR $3.25

Just send the NUMBER of the COMBINATION and the MONEY. You will receive the books by return mail

Address American Carpenter and Builder

185 Jackson Boulevard, CHICAGO, ILL.

One Brand Only
CHICAGO "AA"==The Best

THE LEADING SIDEWALK CEMENT

Uniform Color — **Uniform Tensile Strength**
Uniform Fineness — **Uniform Setting Qualities**

COMBINED WITH LARGE SAND CARRYING CAPACITY, MAKES

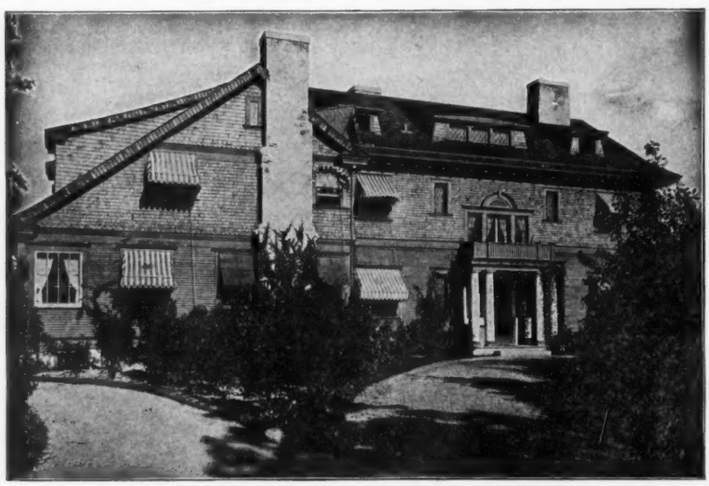
CHICAGO "AA"

THE IDEAL CEMENT FOR LAYING SIDEWALKS, CURBS AND GUTTERS;
ALSO FOR ALL OTHER CONCRETE WORK REQUIRING
HIGHEST GRADE OF PORTLAND CEMENT

Chicago Portland Cement Co.

Manufacturer of CHICAGO "A" Portland Cement
Stock Exchange Bldg. - - Chicago, Ill.

Pamphlets on "How to Use Portland Cement" and "Portland Cement Sidewalk Construction" sent free on application.



AS A RULE, too little attention is paid to the Shingles of a house, when, in fact, they should be first considered. Preserving and beautifying the shingles is as essential as any part of the building. These stains are made with permanent German colors ground very fine with **Creosote** and drying oils, the colors being thoroughly incorporated with liquids. The stain penetrates the wood, and there is no hard surface to peal and crack as with paint, and it will prolong the life of the shingles many years, protect them from dry rot and boring of insects, and keep them from warping. It brings out the beautiful shading of the grain of the wood, which cannot be obtained with paint, giving a remarkably artistic coloring effect, quite different from a painted surface. The cost of these stains is about one-half, when compared with paint. If interested, send for samples on wood of twenty-one different tints and colors.

MANUFACTURED BY

Vilas Bros., Chicago, Illinois

Quincy and Fifth Avenue

PRACTICAL BOOKS

THAT TELL YOU HOW TO DO IT BY UP-TO-DATE METHODS

50 CENT BOOKS
NEAT CLOTH BINDING

Workshop Companion A Collection of Useful and Reliable Receipts, Rules, Processes, Methods, Wrinkles and Practical Hints for the Household and the Shop. By John Phin.

This is a book of 164 closely printed pages, forming a dictionary of practical information for mechanics, amateurs, housekeepers, farmers—everybody. It is not a mere collection of newspaper clippings, but a series of original treatises on various subjects, such as alloys, cements inks, steel, signal lights polishing materials and the art of polishing wood, metals, etc., varnishes, gilding, silvering, bronzing, lacquering and the working of brass, ivory, alabaster, iron, steel, etc.

Easy Lessons in Architecture Consisting of a series of questions and answers explaining in simple language the principles and progress of Architecture from the earliest times. By Thomas Mitchell. Illustrated by nearly one hundred and fifty engravings. New edition.

The present work is probably the best architectural text book for beginners ever published. The numerous illustrative engravings make the subject very simple, and prevent all misunderstanding. It tells about the different styles, their peculiar features, their origin and the principles that underlie their construction

The Steel Square Pocket Book A practical and handy treatise, giving the best and simplest methods of using the carpenter's steel square. By D. L. Stoddard. 113 illustrations pocket size.

Carpenter's and Joiner's Pocket Companion Containing rules, data and directions, for laying out work, and for calculating and estimating. Compiled by Thomas Moloney. Illustrated, pocket size.

This is a compact and handy little volume, containing the most useful rules and memoranda practically tested by many years' experience in the shop, factory and building; also a treatise on the Framing Square.

How to Mix Paints A simple treatise prepared for the wants of the practical painter. By C. Godfrey. Illustrated.

This book is intended for those who have not had the benefit of a long training and experience in the mixing of colors. Simple and clear directions are given, so that by a little practice the reader may be able to mix the various tints and shades.

The Practical Upholsterer This work contains a number of original designs in drapery and upholstery, with full explanatory text and an immense number of working illustrations.

It gives a description of tools, appliances and materials. It tells how to upholster chairs parlor furniture, bedroom furniture,

Common Sense in the Poultry Yard A story of Failures and Successes, including a full account of 1000 Hens and What They Did. With a complete description of the houses, coops, fences, runs, methods of feeding breeding, marketing, etc., and many new wrinkles and economical dodges. By J. P. Haig. 192 pages, illustrated.

How to Frame a House A practical treatise on the latest and best methods of laying out, framing and raising timbers for houses, making a handy and easily applied book for carpenters, builders, foremen and journeymen. By Owen B. Maginnis. 96 pages laige 8vo. Cloth $1.00

Roof Framing Made Easy A practical and easily comprehended system of laying out and framing roofs adapted to modern building construction. By Owen B. Maginnis. 164 pages, 8vo. 98 illustrations, cloth. $1.00

This book gives simple practical methods for laying out and framing roofs of various forms. Simple and practical.

How to Measure up Woodwork for Buildings By Owen B. Maginnis 79 pages, 161 illustrations, 12 mo., cloth. 50c

This book was written so as to place in handy and concise form reliable directions to enable builders and mechanics to measure up the quantities of woodwork for brick and frame houses, accurately and without hesitation, figuring either from plans or on the work. Its use saves blunders.

BUILD A HOME
WE HAVE TWO GOOD BOOKS OF PLANS OF UP-TO-DATE HOUSES

The American Homes Contains designs of 100 low and medium priced houses. 8vo., over 200 pages, cloth ornamented . . . $1.00

The Ideal Homes Contains 100 designs of houses entirely different from those illustrated in the American Homes. 110 large, 8x11 inch pages, ornamented cloth. $1.00

The plans of the houses illustrated in these books have been drawn by licensed architects.

Great care has been taken to have these plans practical as well as artistic. Every available foot of space is used to the best advantage.

The cost of the houses illustrated varies from $300 to $4,000; from a two room house up to ten rooms.

Considering the number of plans given, these are the cheapest books of designs ever got out.

We can also furnish the complete plans (blue prints) and specifications of any design illustrated in these books at an average price of only $5.00 per set. These plans and specifications will save builders the time and labor of drawing plans or employing an architect to do so.

Concrete By Frank Jay. 94 pages illustrated by 38 engravings 25c

The extensive use of concrete at the present time makes this little manual "fill a long felt want." It is written by an expert of many years' experience in concrete work.

Handy Lumber Tables Containing board measure, plank measure, scantlings reduced to board measure, with other useful data and memoranda. 24 pages 12mo., paper 10c

25 CENT BOOKS
FIVE FOR ONE DOLLAR

How to Become a Good Mechanic By John Phin. Intended as a practical guide to self taught men, telling what books to use; how to begin; what difficulties will be met; how to overcome them; in a word, how to carry on such a course of self instruction as will enable the young mechanic to rise from the bench to something higher.

Draughtsmanship By John Black. This little manual is intended for those who desire some little knowledge of architectural drawing and to whom the study of the larger treatises would not be suitable.

The Slide Rule and How to Use It By Fred T. Hodgson. This is a compilation of explanations, rules and instructions suitable for mechanics and others interested who wish to master the use of this time-saving calculating instrument.

Hints for Painters, Decorators and Paper Hangers By An Old Hand. A most useful book treating on the preparation of surfaces, materials used, mixed paints, operations, taste in color, graining, paper hanging estimating cost of work, useful recipes etc. A valuable book for the amateur.

Decorating Edited by John Black. The hints and suggestions contained in this book will be appreciated by the practical painter as well as by every householder who desires to have his home neatly and tastefully ornamented.

The Pistol as a Weapon of Defence, in the house or on the road. This book aims to instruct peaceable and law-abiding citizens in the best means of protecting themselves from the attacks of the brutal and the lawless.

Shooting on the Wing By an old Gamekeeper. Plain directions for acquiring the art of shooting on the wing. With useful hints concerning all that relates to guns and shooting, particularly in regard to the art of loading so as to kill.

What to Do in Case of Accident A book for everybody. Tells what to do in case of accident before the doctor comes. These directions might be the means of saving many a valuable life.

A Book About Books Practical notes on the selection use and care of books. Intended as a popular guide for book buyers, students and all lovers of good reading.

The Lightning Calculator Practical Hints on Lightning Calculating. To which are added rules, tables, formulæ, and memoranda for making rapidly those every-day calculations that are required in business, mechanics and agriculture. A useful book for everyone. No tricks, but sound facts.

Useful and Precious Minerals By John Phin. Tells how to find them; how to test them and how to estimate their value by simple methods and easily obtained appliances. Intended for the use of non-experts so that they may, by simple tests, know if their "find" is valuable or only useless dirt.

ANY BOOK SENT POST-PAID ON RECEIPT OF PRICE. YOUR MONEY BACK IF YOU ARE NOT PLEASED

Send for our CATALOG OF BOOKS RELATING TO THE BUILDING TRADES, which describes over 300 books for Architects, Draftsmen, Contractors, Masons, Carpenters, Stairbuilders, Plumbers, Steam Fitters, Tin Smiths, Painters, Etc. WITH IT WE WILL SEND, FREE, A PAMPHLET OF USEFUL INFORMATION for CARPENTERS and BUILDERS

INDUSTRIAL PUBLICATION CO., 14 Thomas St., NEW YORK

APR 8 1907

Contents for April, 1907, see page 98

INDEX TO ADVERTISEMENTS, APRIL, 1907

Page

Adams & Elting Co....166
Allith Manufacturing Co.... 19
American Combined Level and Grade Finder 13
American Hydraulic Stone Co., The....154
American Rolling Mill Co.... 9
American Sea Green Slate Co....167
American Sheet & Tin Plate Co.... 8
American School of Correspondence....115
American School of Correspondence....123
American School of Correspondence....129
American School of Correspondence....167
American 3-Way Prism Co....159
Anchor Concrete Stone Co....153
Anderson & Co., George H....163
Andrews Heating Co....113
Andrews Heating Co....157
Antihydrine Co....157
Architects & Engineers' Supply Co.... 17
Ashby, G. W.... 12
Ashland Steel Range & Manufacturing Co., The....142

Bangor Slate Co., The....161
Bangor Slate Mining Co....158
Bangor Structural Slate Co., The....161
Barnes Co., W. F. & Jno.... 16
Barrett Manufacturing Co....119
Beacon-ite Mills....166
Bedford Steam Stone Works....173
Bertelsen Adjustable Grille Co....172
Boston Bolt Co....160
Bostwick Steel Lath Co., The....164
Bradt Publishing Co.... 25
Brandell Concrete Block Machine Co....156
Braunsdorf Mueller Co.... 10
Buckeye Paint & Varnish Co....165
Burlington Venetian Blind Co....162
Burritt Co., A. W.... 22
Burt Manufacturing Co....111

Caldwell Co., W. E....133
Canton Art Metal Co.... 19
Canton Foundry & Machine Co., The...159
Cement Machinery Co....149
Cement World 138-139
Central Mantel Co....Cover
Century Cement Machine Co....145
Chappell Furnace Co., The....164
Chase Foundry & Manufacturing Co....153
Chicago Embossed Moulding Co....171
Chicago Millwork Supply Co....126-127
Chicago Portland Cement Co....176
Chicago School of Practical Bricklaying 134
Chicago Spring Butt Co.... 26
Cincinanti Floor Co....167
Cincinnati Fly Screen Co., The....130
Classified Department....110
Cleveland Window Glass Co....131
Coltrin Manufacturing Co., The....150
Columbia Mineral Wool Co....157
Columbian Hardware Co....Insert
Columbus Paint Co., The....166
Columbus White Lead Co., The....130
Compound Door Co., The....173
Contractors' Supply & Equipment Co..101
Contractors' Supply & Equipment Co..146
Co-Operative Wire & Iron Works....137
Cortright Metal Roofing Co....158
Coulson & Co., J. W....142
Crescent Machine Co.... 21
Cross Co., The....134

Davenport Foundry & Machine Co.... 22
Davis & Cook.... 24
Dean & Barry Co., The....116
Detroit Show Case Co....159
Dixon Crucible Co., Jos.... 20
Duby & Shinn Manufacturing Co....162
Dunn & Co., W. E....151
Dykema Co....155
Eaton & Prince Co....137
Edmondson Concrete Machinery Co., The147
Edwards Manufacturing Co.... 18
Eller Manufacturing Co.... 19
Engineers' Equipment Co.... 17
Engineers' Equipment Co....160
Ewing Fence Post Co....136
Excelsior Implement Co....137
Flanagan & Biedenweg Company, The..158
Foster & Sons Co., Wm....158
Foster-Munger Co., The....168
Francis Machinery Co....155
Francisco Block Machine Co....146
Gage Tool Co....165

Page

Galesburg Cornice Works....146
Garside Blind Adjuster....114
Genuine Bangor Slate Co....157
Gillespie, G. Curtis.... 25
Gillespie, G. Curtis....170
Goodell Manufacturing Co.... 10
Goodell-Pratt Co.... 13
Gordon, Van Tine & Co....Cover
Goshen Sash & Door Co.... 4
Gould Manufacturing Co....169
Grammes & Sons, L. F.... 16
Grand Rapids Hardware Co.... 19
Green Lumber Co., George....170

Hartman, John.... 20
Harty Bros. & Harty Co....172
Haux Spectacle Co., Dr....124
Hayden Automatic Block Machine Co., The 150
Haynes-Langenberg Manufacturing Co.129
Herrick Refrigerator Co....Cover
Hess Warming & Ventilating Co.... 14
Hight, A. W....164
Hight Manufacturing Co., The.... 25
Hower, J. K....133

Ideal Concrete Machinery Co....153
Indianapolis Steel Roofing & Corrugating Co.... 18
Industrial Publication Co....177
International Correspondence Schools...125
Ives Co., The H. B....136

Johnson & Son, S. C....104-105
Johnston Manufacturing Co....110

Kanneberg Roofing & Ceiling Co.... 9
Kansas City Elevator Co.... 23
K. C. Wire & Iron Works....133
Karol, B. B....170
Kawneer Manufacturing Co....161
Kees Manufacturing Co., F. D....162
Kidder, R. E....21
Kingsley, Wm. M....148
Knickerbocker Co., The....152
Kochersperger, H. L....136
Kramer Automatic Tamper Co....154

Laramy-Howlett Co.... 20
Levering, O. D....136
Little & Gavett....165
Lorenzen & Co., Chas F....140
Lufkin Rule Co.... 17

Madisonville Lumber Co....Cover
Mallory Manufacturing Co....162
Malta Manufacturing Co., The....140
Mannen & Esterly.... 11
Manz Engraving Co., J....173
Marsh, H. C.... 26
Marshalltown Trowel Co.... 15
Marston & Co., J. M.... 21
Mayhen Co., H. H.... 16
McKenna, David....133
Mead Cycle Co....133
Mecklenburg Gas & Gasoline Engine Co., The....146
Messenger & Parks....158
Meyer & Bro. Co., E....120
Miles Manufacturing Co., The P. B.....148
Miller Manufacturing Co., A. W.... 15
Miller Slate Co., O. A....158
Millers Falls Co.... 10
Millers Sons Co., Henry.... 20
Miracle Pressed Stone Co....141
Monarch Machine Co.... 23
Montross Metal Shingle Co....157
Moore & Co., E. B....128
Morgan Co., H. B....167
Morrill, Chas.... 26
Mullins Co., W. H....18
Mulvey Manufacturing Co., Chas....173
Myers & Bro., F. E....134

National Association of Master Sheet Metal Workers.... 9
National Cement Machine Co....147
National Concrete Machinery Co....143
National Consolidated Watch Co....165
National Manufacturing Co....118
National Sheet Metal Roofing Co., The.161
National Slate Vault Co., The....159
Nicholls Manufacturing Co....160
Noble Concrete Machinery Co....144
Nodamp Concrete Block Machine Co....147
North Bros. Manufacturing Co.... 11
Northrop Coburn & Dodge Co....163
Northwestern Expanded Metal Co....161
Northwestern Grille Works....172

Page

Nurock Machine Co....156

Ohio Tool Co.... 13
Olson & Richardson....153
Orr & Lockett Co.... 26

Palmer Co., Harmon S....156
Parker, C. L....156
Parker Co., Chas.... 24
Parry, L. L....152
Pease Co., The....6-7
Peerless Brick Machine Co....151
Pettyjohn Co., The....150
Phillips Co., A. J.... 23
Phoenix Sliding Blind Co....162
Pike Manufacturing Co....140
Prescott & Son, J. B....154
Popular Block Machine Co....150
Prentiss Vise Co.... 24
Progressive Manufacturing Co.... 11
Prouty Co., Ltd., T. C.... 14
Pullman Manufacturing Co.... 19

Quaile, George 163
Queen City Brick Machine Co....155

Reed Manufacturing Co....144
Rehm Hardware Co.... 24
Rich, J. & G.... 17
Roebuck Weatherstrip & Wire Screen Co. 22
Romona Oolitic Stone Co....158

Sackett Plaster Board Co....117
Safety Lock & Ventilator Co....132
Samson Cordage Works....133
Sanders Co., Henry....172
Sargent & Co....173
Schaller-Hoerr Co....108-109
Schuler & Mueller....158
Sealskin Swaty Strop Co.... 22
Sedgwick Machine Works.... 23
Seymour & Whitlock.... 15
Sheldon, E. H....136
Shultz, C. H....165
Sieger & Son, Henry N....122
Seneca Falls Manufacturing Co.... 20
Sidney Elevator Manufacturing Co.... 23
Silver Lake Co.... 19
Simpson Cement Mold Co....149
Smith & Hemenway Co.... 10
Smith Machine Co., H. B.... 3
Snell Manufacturing Co., R. Z....156
Soltmann, E. G.... 17
South Bend Machine Manufacturing Co. 155
Standard Machine Co., The....148
Standard Sand & Machine Co., The.....148
Stanley Rule & Level Co.... 20
Star Expansion Bolt Co....160
Starrett & Co., L. S.... 16
Stockholms Trafargnings Aktiebolag...134
Stoddard, Dwight L....156
Stratton Bros.... 24
Suess Ornamental Glass Co....163
Sykes Metal Lath & Roofing Co....161

Taylor Manufacturing Co., James L.... 24
Taylor Co., N. & G....121
Thomas Moulding Co.... 26
Toledo Mantel & Tile Co....132
Topp & Co., G. A.... 17
Tower & Lyon Co.... 13

Union Elevator & Machine Co.... 23
Union Fibre Co....112
United Cement Machinery Manufacturing Co., The....149
U. S. Cement Machine Co., The....136

Van Doren Manufacturing Co.... 15
Vilas Bros....176

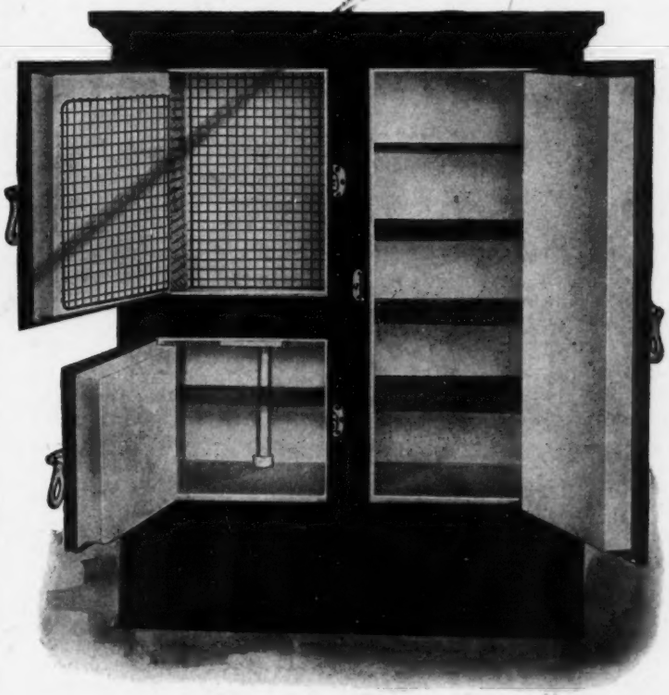
Wagner Manufacturing Co.... 20
Walters Sons, W. P.... 11
Walton Stone Machine Co....151
Waterloo Cement Machinery Co....152
Waterloo Concrete Brick & Block Machine Co....153
Waterloo Gasoline Engine Co....160
Watson Co., The James H....135
Weber & Co., F.... 160
Weber Gas Engine Co.... 5
Western Sand Blast Manufacturing Co..137
Wettlaufer Bros....151
Wichita Coal & Material Co....151
Wilcox Manufacturing Co....164
Willis Manufacturing Co....144
Winner Brick Machine Co....148

Zimmerman, C. E....170

NOTICE TO ADVERTISERS.

New copy, changes and corrections for advertisements must reach office of American Carpenter and Builder, 185 Jackson Boulevard, Chicago, not later than April 20 in order to insure insertion in the May number.

VALUABLE INFORMATION FREE



To Architects, Contractors and Builders

Learn the **modern way.** Know how to install the Modern Residence Outside Icing Refrigerators without needless cost to yourselves, clients and owners. Understand the aduances made in refrigeration and the superior features of our Dry Air System Refrigerators. Our No. 37 Miniature Catalog gives full plans and specifications and we will mail it to any address upon request. Ask also for our No. 17 Catalog of refrigerators.

THE **HERRICK** HAS
Solid Oak Cases—Heavy Mineral Wool Insulation.
Forced Dry Air Circulation.

We build a full line of White Odorless Spruce—White Enamel and White Opal Glass Lined Refrigerators.

Specify the **"High Grade"** Refrigerator, which sells at reasonable prices. Your home builders will appreciate it.

Special Fine Residence Refrigerators. Send us your specifications and plans for estimates. Blue Prints will be furnished **FREE.**

Write for full information and prices today to

HERRICK REFRIGERATOR CO.
Factory—WATERLOO, IOWA—Dept. A.

THE CENTRAL'S MANTELS



Direct from the Factory to the Consumer

$15.00 to $250.00

In Colonial, Craftsman, Modern Mission and numerous other styles and all woods and finishes, will finish mantels to match your wood work if sample is furnished.

We employ the most skilled talent in every department, and our experience of twenty years enables us to turn out the highest quality of goods, in design, workmanship and finish.

We make them in large quantities and sell direct to the consumer, thus saving you the dealer's profit.

Send 10 cents in stamps for our large catalogue entitled "Science of Mantel Making," illustrating 100 new and exclusive designs.

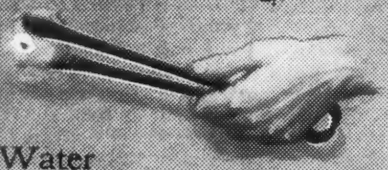
CENTRAL MANTEL COMPANY
1247 Olive St. : : : ST. LOUIS, MO.

All You Need is a Hammer

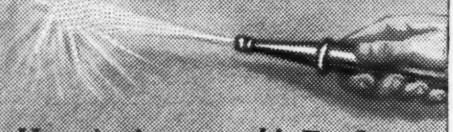
We furnish FREE with each roll of *this* Roofing all the *Nails, Metal Caps* and *Liquid Cement* you need.



Hot Coals won't set *this* Roofing on fire.

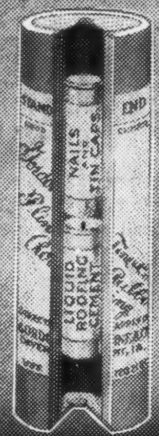


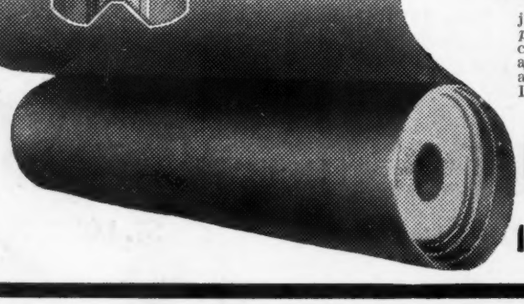
Water has no effect on *this* Roofing.



Here is the way *this* Roofing is *carefully packed.*

See the Free Nails, Metal Caps, and Liquid Cement, as packed inside each Roll of 108 square feet.





Write First for Our FREE Catalog On

FLINT COATED FIRE PROOF RUBBER ROOFING

What is Worth Roofing is Worth Roofing Well

Just write a postal first, *today*, for our Free Roofing Catalog. Then we'll sell you if you want roofing, *better* roofing than you can buy anywhere else—*Flint-coated, Fire-proof Rubber* roofing. Sell you *direct at half what your local dealer* will charge you for ordinary roofing—half what shingles will cost you, for we ship right from our factory to you. Send you our Free Roofing Catalog on our roofing, telling why it's **Rust-proof and Practically Fire-proof,** if you'll only write us a postal. Send you a sample so you can test it—try to tear it—pound it—smell it to see that there's no tar in it to burn or melt—try it with hot coals to see that you can't set it on fire so it will blaze—try it with acid—try it any way to satisfy yourself.

All You Need is a Hammer

to put it on your house, barn or outhouses. We send you with every order all the nails, metal caps and cement you need to put it on. Also 8 square feet for laps. And it's the easiest roofing to put on made today.

It Lasts a Lifetime

and will keep your buildings dry, warm and substantial in appearance. *Won't rust out like steel roofing or rot like ordinary roofing.*

This isn't an ordinary roofing. We make it from a special process material with such heavy machinery that when it's finished there's absolutely no 'wear out" to it. We tell you in our Free Roofing Catalog all about the process—the pressure it gets—the flint coating—the acid-proof soaking—the weather-proofing that we give it.

These Low Prices are Samples of Cost to You Direct From Us

Per Square of 108 Sq. Feet

1-Ply, per square -	$1.41
2-Ply, per square -	1.96
3-Ply, per square -	2.29

Gordon, Van Tine Roofing Prices

This Roofing Saves You 50% In First Cost and 25% on Insurance

We *guarantee* to save you *half*, freight included, on what dealers would charge you for roofing of *this high quality*. We save you that in price. We save you more than that in the longer time that Gordon, Van Tine & Co.'s Flint-Coated Rubber Roofing will last.

And besides all that, you will find that your *insurance rates* will be 25% lower if you use our roofing than you would have to pay if you use shingles or many other kinds of roofing.

Just to prove to you that you can depend on what we say, we ask you to write for our Free Roofing Catalog so you can not only learn all about our *Roofing*, but find out *before you order from anybody* that we are a *large, reliable, responsible* concern, and that *ours* is *best.*

You probably know us now. Or neighbors of yours do. For we have the largest Mill in the World, here in Davenport, Iowa, and are selling High-Grade Roofing, Millwork, Windows, Doors, Screens, etc., and Paints, *direct* to *users* at *half dealer's prices* all over the United States. We were established in 1865. We have $300,000 capital, which your own home town banker, or any banker here in Davenport, our home, will tell you absolutely protects you.

On any of our goods that you ever order direct from us we give you our absolutely

Unqualified Guarantee or Your Money Back

that each article is just exactly as represented. Every article we make is **Sold Only Direct** to the man who uses it, so you save 50 per cent, which on other roofing goes into your local dealer's, the jobber's and the wholesaler's profits. You'll see from what we tell you in our

Free Roofing Catalog

just why it will pay you to use our roofing. *We guarantee safe, prompt delivery anywhere in the United States.* We save you 50 per cent, freight included. We ship to you from Kansas City, Minneapolis, Chicago, or Davenport. This saves on freight rates, which are only a trifle anyway on roofing. Send catalog requests only to Davenport *and let us save you —dollar for dollar—HALF.*

GORDON, VAN TINE & CO.

LARGEST MILL IN THE WORLD

130 FEDERAL ST., DAVENPORT, IOWA